The EDUCATIONAL RECORD

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WALTER V. KAULFERS

Analyzing and Evaluating Costs in Higher Education
LOGAN WILSON

Other Articles by

Robert A. Davis, Melvene Draheim Hardee,
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RAYMOND F. HOWES, *Editor*

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The Educational Record

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Latin-American Education in Transition

WALTER V. KAULFERS

EDUCATION in Latin America has been a race against the stork. Despite the efforts which almost all countries have made to provide instruction for the masses, the birth rate of schools has had difficulty keeping pace with the birth rate of ignorance. The problem will doubtless remain crucial for years to come. The rate of population increase south of the border is one of the highest in the world. Within forty years the inhabitants of Latin America are expected to number 500 million—enough to reduce the United States to a small minority within its own hemisphere. With an estimated 180 million inhabitants in 1958, Latin America even now rivals the United States in population.

To meet the educational problems of the population explosion, some countries have experimented with crash programs. On August 21, 1944, President Avila Camacho of Mexico issued his famous emergency decree against illiteracy. The directive obligated every literate Mexican between the ages of sixteen and sixty to teach an illiterate compatriot between the ages of six and forty to read and write. Using the "each one teach one" methods of Dr. Frank Laubach, the nation-wide campaign reportedly converted 1.5 million people to literacy within a year.

During the past decade Mexico has attempted to achieve a major breakthrough in education by means of massive increases in funds for schools. Between 1950 and 1960, the budget for education at times exceeded the expenditure for all of the nation's armed forces combined. The results of this effort are visible in the many new schools that dot the Mexican landscape and in such showplaces as the National University, with its magnificent new buildings and campus just outside the capital. In Latin America, only the new Central University in Caracas can begin to compare with it.

Shortly after his first seizure of power in Cuba in 1933, Fulgencio Batista created a branch of the army called "sergeant teachers" to promote education in rural areas. Recruited, trained, and paid by the army, the *sargentos-maestros* wore regulation uniforms and worked under military discipline. Cuban schools today still number some teachers who received their first training in pedagogy as members of the sergeant-teacher corps.

By abandoning its army in 1949 and devoting most of its budget to schools, Costa Rica has been able to raise educa-

tional and social conditions above the level attained by its Central American neighbors. Speaking of his country during the summer of 1960, President Echandi remarked: "We have 600 schools and 600 policemen. Of 19,000 government employees, 10,500 work for the Education Ministry."

In contrast, Honduras still suffers from the endless years when military dictatorships drained the country of resources that might have been used to pay teachers instead of soldiers, to build schools instead of barracks, and to buy books instead of guns. Only a few months ago Honduran President Villeda Morales called his country "the land of the four 70's"—70 percent illiterate, 70 percent illegitimate, 70 percent rural, and 70 percent dead from avoidable sickness.[1]

Notwithstanding the crash programs that many countries have attempted, illiteracy still plagues most of Latin America. Unesco estimates that between 14 and 20 million children are currently without schools south of the border. Part of the difficulty stems from a shortage of some 400,000 teachers. Despite the efforts which Brazil has made to promote education, illiteracy remains at 55 percent. Even among children who have the opportunity to go to school, only half attend for more than a year, only one in five finishes the fourth grade, and less than one in a hundred graduates from a secondary school. Within the whole of Brazil, fewer than six out of ten primary school teachers are normal school graduates. For many, teaching school is only a part-time, pin-money job.

The few countries which have so far been able to bring illiteracy within manageable limits are nations like Argentina, Uruguay, and Costa Rica, where the majority of the population is of European stock. Even in these countries, however, *el analfabetismo* is still five to six times as great as in the United States.

In areas with sizable populations of Indian or African origin, illiteracy remains discouragingly high—from more than 40 percent in Mexico to 80 percent in Bolivia and Nicaragua, up to 90 percent in Haiti. In these areas the problem is often complicated by differences in languages as well as in customs and mores.

Most Indian children come from homes where little or no Spanish, French, or Portuguese is spoken. Hence, they are confronted with language difficulties that often create obstacles to learning. Among the Aymara of Peru the word for *dog* is not *perro*, but *anu;* for *house* it is *uta* instead of *casa;* and for *nest* it is *tapa*, not *nido*. In the Mazateco language of Oaxaca in southern Mexico, "my mother dances" becomes *nànà títè*—quite unintelligible to one who recognizes only *mi madre baila*. Again, among the Tarascans of Michoacán, "come here, sonny"—*juni iju*—sounds quite different from its Spanish equivalent, *ven acá, hijito*. An idea of the magnitude of the problem can be obtained from the fact that in Mexico alone over fifty languages and dialects are spoken, some of them as different from each other as Russian is from English.

Obviously, where not more than half the population has access to public instruction, the percent of young people attending secondary schools and universities is very small. In Colombia, for example, only five children in a hundred go through high school, compared with over 65 percent in this country. Whereas, in the United States, over 1,900 out of every 100,000 Americans are enrolled in institutions of higher learning, the comparable figure for Argentina—one of the more educationally advanced countries

[1] Honduras, however, is better off than Haiti which, with an illiteracy rate of 90 percent and a per capita income of less than $65 a year, ranks lowest among the nations of the Western Hemisphere and among the lowest in the world.

of Latin America—is under 500. Although equality of opportunity in education is by no means universal in the United States, among most of our neighbors to the south it exists only to the extent that an exceptional pupil is sometimes able to secure a government scholarship.

Wherever the number of years of school attendance is limited, the tendency is to impart as much useful information as possible before the pupils drop out. This tendency is conspicuous in Latin America. Children often take up topics a year or two before our youngsters are exposed to them. Where Spanish is the pupils' native language, this acceleration presents few problems to children of normal ability. Compared with English, Spanish is a highly phonetic language. With minor exceptions, its words are pronounced as they are spelled and spelled as they are pronounced. Hence, the time our boys and girls must spend in sharpening their linguistic tools can be devoted in Spanish-American schools to using them as instruments of education. Only when his learning ability is below average or his mother tongue different from the language in which instruction is given is the Spanish-American youth likely to experience difficulties attributable to an accelerated curriculum.

Where relatively few children enter secondary schools and even fewer graduate, the tendency to cover as much ground as possible is also pronounced. In Latin America (as in most countries of Continental Europe), secondary school pupils are often enrolled in twelve or more courses at once. In Costa Rica the study of up to seventeen subjects simultaneously is not unheard of. Since it is impossible for a student to attend classes in so many subjects daily, most courses meet only once, twice, or three times a week. This arrangement commonly requires a school week of five and a half days, with pupils attending classes until noon on Saturdays.

Like his counterpart in a European *lycée, collège, Gymnasium, ginnasio,* or *istituto,* the university-preparatory student in a Spanish-American *liceo, colegio, gimnasio,* or *instituto* has to devote more time to homework than is commonly expected of United States high school students. Three or more hours a day is usual rather than exceptional among Spanish-American pupils who wish to do well in all their studies.

The degree to which the educational systems of Latin America accelerate learning and place the major responsibility for progress in school upon the pupil and his parents is only one of the many respects in which education among our southern neighbors more closely resembles that of Continental Europe than that of the United States. Among other respects in which their schools more closely resemble those of Europe—especially those of countries in which the Roman Catholic tradition in education is strong—the following deserve mention.

The control over education exercised by the central or national governments.—Within the purview of the national ministries (as in France, Belgium, Spain, Portugal, and Italy) is the establishment of schools and curricula, the approval of textbooks, the inspection of instruction, and the construction (or at least approval) of promotional examinations, especially at the secondary school level.

The relatively greater number of pupils attending private institutions.—In the case of university-preparatory students the number is seldom under 40 percent, compared with 12 to 14 percent in the United States.

The relatively greater number of secondary school pupils in uniform.—Because private institutions frequently persuade students to adopt a common mode of dress, uniforms are more in evidence among Latin-American teen-agers than

among United States high school youth. Perhaps as a result of the influence exercised by the independent secondary schools, uniforms are often worn also in institutions maintained by the government. In the latter, however, uniform dress is commonly a matter of local option.

The relatively smaller number of teen-agers attending coeducational secondary schools.—In Guatemala, for example, the *institutos* are commonly coeducational (*mixtos*) only in areas where limited enrollments would make separate facilities for boys and girls either impractical or prohibitively expensive. Even where schools are considered coeducational, the term sometimes has a different connotation in Spanish-speaking countries from its meaning in the United States. It may mean only that the same school operates two shifts, a morning session for the girls and an afternoon session for the *varones*, or that part of the school's facilities are reserved for girls and the rest for the boys.

Instruction in religion, philosophy, and ethics.—Although these subjects are conspicuous chiefly for their absence from public education in the United States, approximately a third of the Latin Americas provide classes in religion in their public schools. Colombia, Costa Rica, Haiti, Panama, and Venezuela are examples. Even where religion as such is not taught outside private schools (as in Mexico, Guatemala, Nicaragua, and Salvador), moral education is usually stressed through special classes in the lower grades, supplemented by courses in philosophy or ethics for advanced students in secondary schools.

Differences in school organization.—With some exceptions, the basic pattern of education for academically gifted, university-preparatory students in Latin America is commonly five to six years of elementary school (beginning, as in Spain, at age seven in most countries), followed by five to six years of secondary school. Both the elementary and secondary sequences are frequently divided into a lower *ciclo* (cycle) of two to three years and an upper *ciclo*, as in the *colegios* and *liceos* of Argentina, Brazil, Chile, and Colombia. However, whereas the United States attempts to house all teen-agers from a certain attendance district on one campus, no matter whether their major fields of interest are mechanical, commercial, artistic, or strictly academic, the Latin Americas provide separate schools for adolescents of differing abilities and vocational destinations. Four different types of subject-specialized secondary schools, as in Costa Rica, is close to the minimum. Six to eight types is common; but twelve types (as in Brazil), fourteen types (as in Cuba before the current reform), and even sixteen types (as in the Dominican Republic) are not unknown.

In addition to the separate academic secondary schools for boys and girls commonly known as *colegios, liceos,* or *institutos,* there is usually a variety of separate secondary-level *escuelas* (schools) for the preparation of rural grade-school teachers (for example, *escuelas normales*) and for training in the arts and crafts, music, agriculture, commerce, physical education, journalism, home economics, and so on. The curriculum of the specialized vocational schools commonly extends from only two to four years (as in the *escuelas profesionales* of Uruguay) to as many as seven years (as in the Argentine's Escuela Industrial de la Nación).

The disadvantages of this specialization are at times far-reaching. Assuming equal facilities, the per-pupil cost of secondary education is almost always higher in separate specialized schools with limited enrollments than in schools of the larger comprehensive type. Since it is difficult to provide so many separate schools with good facilities in the way

of libraries, auditoriums, gymnasiums, and teaching aids, only the largest population centers can afford more than one or two types. Consequently, a rural or small-town youth is much less likely than an urban boy to have access to instruction especially suited to his abilities.

Again, students in need of guidance and counseling usually fare better in comprehensive secondary schools of reasonable size than in small, highly specialized institutions. In a comprehensive school, changing a student's program usually means only substituting one course for another at the end of a semester. In Latin America, as in most European countries, however, the student who finds himself seriously misplaced is obliged either to drop school or to enroll in an entirely different institution. Inasmuch as specialized schools commonly have special requirements for admission, such a transfer—even where a suitable school is conveniently available in the same community—can seldom be made without the loss of a semester or year.

Promotion on the basis of comprehensive achievement examinations. A Latin-American youth who fails more than one basic subject on his final term-end examinations is frequently obliged to repeat the work of the entire year. Comprehensive achievement testing sometimes starts as early as the first grade. In Latin America, this practice leads to much the same retardation and high rates of dropout as it produced in this country before it was largely discontinued over a generation ago.

Little stress compared with the United States on extracurricular activities.—Although sports play an increasingly important role in the physical education programs of Latin-American schools, regional interscholastic contests are practically unknown. Club meetings, school dances, and the like are also less frequent than in this country. School-wide extracurricular activities are likely to be limited to preparation of programs in commemoration of national anniversaries or to participation in national, regional, or community festivals—marching in parades, taking part with other schools in mass exhibitions of gymnastics, folk dancing.

A majority of our southern neighbors, however, have youth organizations like the Boy Scouts (*Niños Exploradores*) or the equivalent of our 4-H Clubs. In the Spanish-speaking Americas, the latter are known as 4-S Clubs—the S standing for *saber* (knowledge), *salud* (health), *sentimiento* (sentiment), and *servicio* (service).

The absence of free electives from Latin-American education.—As in most European schools the pupil is limited to required subjects. The best he can hope for is a choice between one required science or foreign language and another. Controlled selection instead of free election is the rule below the university level in Latin America as, indeed, in most countries of the world. In the absence of elective subjects, guiding students into courses to fortify their interest in school or to meet personal needs apart from purely vocational requirements is more difficult abroad than in this country.

Differences in the school day and year.—Because of differences affecting living and working conditions, many of our southern neighbors have had to make adjustments to suit local needs. Thus, in some parts of Colombia the school year extends from February through November, whereas in others it runs from October through July. Even tiny Costa Rica operates a dual school year: from March to the end of November in some places, and from January to the end of September in areas where it would be inconvenient to send children to school during the worst part of the rainy season. Among our Latin-American neighbors, therefore, classes are often in full swing

while our schools are closed for the summer.

Again, a recess of two to three hours for lunch and a siesta at home is also common in Latin America. Although this custom sometimes appears to be mere conformity to long-standing traditions, in most cases it is attributable either to the absence of school lunch facilities or to the difficulty of teaching classes during the noonday heat. To accommodate so extended a midday recess, however, the pupils' day usually begins earlier and ends later than in the United States, especially at the secondary school level. (Even differences in the flora of certain areas is reflected in education. In Uruguay, instead of an apple, it is "a pomegranate for the teacher.")

Relatively greater stress on foreign languages.—Study of a foreign tongue is required in almost all university-preparatory schools as well as in most *escuelas de comercio.* Because secondary education sometimes starts at age eleven or twelve and extends over five to seven years, this means that academically minded children generally begin a foreign language earlier and continue its study longer than is still commonly the case in this country. A minimum of three years of one foreign language is the rule, but most secondary *colegios, liceos,* and *institutos* offer four to five years. English is the most widely required foreign language, with French a close second. In public schools Latin, Greek, and German are commonly taught only as supplementary subjects. As in the United States until recent years overemphasis on grammar and reading has at times led to the neglect of the spoken language.

Preservation of Old World university traditions.—Because the Western World's university professors were originally churchmen, the rights of sanctuary were extended to them as members of the clergy as well as to the premises where they taught. This tradition has been preserved in most of Latin America. It is not permissible for the police or army to invade university property. Violation of the tradition by a president or dictator usually so outrages public opinion as to threaten his position.

When Vice-President Nixon asked to visit the University of San Marcos in Lima, Peru, despite the hostility of many students, he was strongly advised against entering the premises. The police, being obliged to remain outside, would be unable to protect him. Because he insisted on being driven onto the grounds over their objections, his car was badly damaged.

A few years ago, when their protest against increases in bus fares went unheeded, the students of the National University of Mexico simply took possession of the vehicles and drove them onto the campus. Neutralized by tradition, the police could only lay siege to the campus and starve the students out.

In consequence of the right of sanctuary and of the almost complete lack of competition from extracurricular distractions in the way of football games, spring carnivals, rush weeks, and the like, Latin-American university students are much more active politically than are their counterparts in the United States. During the academic year 1958–59, almost all of Central University's 13,000 students in Caracas, Venezuela, were affiliated with some political group. A third of them were members of the Communist party. More than one Latin-American government has been overthrown by mass picketing, civil disobedience campaigns, or nation-wide sit-down strikes organized and led by students. A wag has said that in spring when United States students turn lightly to thoughts of love, Latin-American students turn lightly to thoughts of revolution. Comparable to the revolts in Latin America were the uprisings among South Korean and Japanese students during the spring of 1960.

As in most countries of Western Europe, similarly in Latin America university students are not obliged to attend classes regularly or to amass a fixed number of course credits by graduation day. Instead they attend such lectures as they please and take examinations when they feel ready for them. This freedom has not been without abuses. At the National University of Mexico in 1953, some 4,000 out of 28,000 students were hangers-on known as *fósiles*, over-age students who kept enrolling without purpose beyond enjoying the academic life and the prestige of attending a university. Some had been around for twelve years despite having failed their courses seven or eight times. To discourage an increase in their numbers, Rector Nabor Carrillo Flores finally issued a set of regulations: Henceforth any student failing a course three times would be dropped from that course; any student failing in his school ten times would be expelled; and any student passing the same course four times would simply have to sign up for something else.

Unlike the universities of the United States (with the possible exception of some medical schools), the universities of Latin America often make extensive use of private practitioners. In some institutions, more than half the teaching staff consists of practicing doctors, lawyers, bankers, engineers, or journalists who, for a token honorarium teach a course on a part-time basis just for the prestige or satisfaction of it, or for the superior clientele which a university connection may attract to their doors. Although an independent source of income doubtless helps professors to withstand attacks on academic freedom in times of crisis and to keep university operating costs down, it is hardly conducive to research or the advancement of knowledge.

Most of the differences which have been cited are likely to distinguish Latin-American education for decades to come. However, population pressures are forcing changes whose effects may prove far-reaching. For years the schools of Latin America have been in transition in response to widespread demands for improvement in living standards and for a more effective voice in government on the part of the people—nearly half of whom have never slept in a bed, never had enough to eat, never gone to school, never really lived in the twentieth century. In the years ahead these demands will doubtless accelerate present trends.

The outlook for the future includes the extension of public education to children who are currently receiving little or no schooling, the expansion of evening school facilities for adults and working youth, the provision of free boarding schools (like the *internados* of Mexico) for young people from sparsely settled areas and the expansion of the curriculum to give effective attention to health and physical education and to modern developments in science and technology. To succeed, these measures will require more effective guidance and counseling services than most schools have commonly provided and also improvements in teacher education.

To succeed they will also require widespread reform in the tax structure if adequate funds are to be available for financing changes. Although wage earners cannot avoid payroll deductions, only 340,000 out of Brazil's 4 million independently employed lawyers, farmers, doctors, and the like, even bothered to file a tax return in 1959. That is scarcely one in twelve. In Guatemala nobody pays an income tax, and property is often taxed at only 0.5 percent of its assessed valuation, which in turn is seldom over one-fourth of its true worth. Such laxities are not infrequent where a tiny minority owns most of a country's resources. To illustrate, in Chile and Brazil only 2 percent of the population owns over half the land. In Venezuela

only 3 percent of the people own 90 percent of the country. The more influential of Latin America's *hacendados* are successors to the *conquistadores*. Upon Hernán Cortés, for example, Charles V bestowed a land grant of some 25,000 square miles—larger than the state of West Virginia—along with 100,000 Indians.

To date, the left-of-center parties have been more vocal in their support of educational reform in Latin America than have those of the right. Public opinion, however, is now too strong to be ignored. Thus, the transition toward a more modern and more democratic system of public education is almost certain to continue. Even where military juntas may at times feel obliged to seize power as a protection against irresponsible radicalism, they will find that popular demands cannot be suppressed indefinitely. That would be courting civil disorders of the type which brought Castro to power in Cuba. A government can hold office in Latin America today only to the extent that it possesses enough intelligence and enlightened self-interest to read the handwriting on the wall and to tell what time it is on the sundial of history.

THE PROBLEMS arising at universities with respect to immigration have usually been in connection with Public Law 555, Eighty-fourth Congress, passed in June 1956 as an amendment to the U.S. Information and Educational Exchange Act (Public Law 402, 80th Congress). In general, this amendment provides that no exchange visitor can apply for an immigrant or nonimmigrant visa under Section 101(a) (15) (H) of the Immigration and Naturalization Act or for adjustment of status to that of an alien lawfully admitted to permanent residence, unless it is established that he has resided and has been physically present in a cooperating country or countries for two years following departure from the United States. Waivers of this period of foreign residence may be granted, but only in the most exceptional cases. . . .

The original purpose of Public Law 402 was to encourage the interchange of students and teachers between cooperating countries and to give an opportunity to foreign professors to teach for one or two years in American institutions, in the belief that there would be advantage to both participating countries and that students and professors, studying and teaching here, would bring back added experience and new ideas to their home countries. In practice, however, it was found, in the early experience under Public Law 402, that a large proportion of the students and educators, coming to this country for a year or two, decided that they would like to remain, if possible, and thus destroyed, in effect, the fundamental objectives of the interchange aspects of the program. This resulted in many protests from foreign educational institutions through diplomatic channels. Under the provisions of the amendment of June 4, 1956, exchange visitors are required to sign certificates before applying for admission to this country in which they agree to return to their own country following their stay here. They must also agree that they will not reapply for admission to this country as permanent residents within a two-year period.—"The College Faculty and Staff," in *College Law*, by Thomas Edward Blackwell, to be published spring 1961 by the American Council on Education.

Analyzing and Evaluating Costs in Higher Education

LOGAN WILSON

Although many of the purposes of higher education transcend monetary considerations, colleges and universities are not exempt from influences of the market place. We sometimes proceed as if they were, however, and there is some truth in the allegation that professional educators are not a very cost-conscious lot. Because money has somehow been found to establish and maintain an astonishing number and variety of educational institutions in the past, it is a common assumption that future needs will somehow be met.

Everybody knows that educational costs—like almost all others—have gone up rapidly, but dividends from our investments have not even begun to level off. As long as this situation holds, some would argue, higher education is worth whatever it costs. Others contend that a college or university is not a business, does not lend itself to cost accounting procedures, never has all the money it needs anyway, and, hence, why bother with cost evaluation?

Increased importance of knowing costs in higher education

It would be impossible to put a price tag on the value of higher education to our society, but the hard fact is that the public must pay for whatever it wants from colleges and universities. Faced with rising operational costs, rapidly growing numbers of students, and new and more complex demands for services, educators are caught in a fiscal bind. Unlike most other producers of goods and services, many have felt it unwise to pass all of these increased costs on directly to the immediate beneficiaries. Such a pricing policy, it is believed, runs counter to basic educational objectives and would be detrimental to the general welfare. Thence comes the stepped-up appeal for funds!

Our financial plight is now well known, but what the money is needed for is not so clear in the public mind. Present and potential supporters are beginning to ask how available funds are being spent and where the added dollars would go. Many are unaware of the increased number and complexity of educational responsibilities. Others do not know that only a small fraction (estimated in 1955 as being 1.14 percent) of the national income is allotted to all higher education. Everyone believes in its importance, but few sense that giving it the higher priority our urgencies require necessarily means less money for other desired goods and services.

Moreover, educational institutions cannot enforce demands for a larger share of the national income, even though they do more than any other institutions to enhance the productivity of those responsible for that income. To get increased support, we can resort only to the powers of persuasion. But how? A first step, it seems to me, is to make certain that our colleges and universities are both efficient and effective. Second, this must be demonstrated to our constituents. And third, in view of other rising demands upon the public and private purse, we can show that an increased investment in higher education will yield greater dividends than virtually any other allocation of capital. None of these objectives can be achieved without a better knowledge than many of our institutions now have about the evaluation of costs.

If we do not wish others to perform the evaluative job for us, we must do it ourselves. In state after state, budget officers, legislators, management consultants, and other "outsiders" are already coming to grips with some analytical problems that we educators have for the most part side-stepped or ignored. As the Western Interstate Commission for Higher Education has noted, it is hardly surprising that pressures grow for handy means of reducing complex educational matters to understandable and manageable proportions. Diffuse and uncoordinated processes of decision-making, which may have sufficed in a period of slow change and stable costs, are being forced into sharper focus to meet the urgencies of curvilinear development. More and more, there is a realization that the economy of higher education, no less than other essential aspects of the total economy, warrants careful management and coordinated planning.

Although I am convinced that colleges and universities are, in general, as well run as most other organizations, I think we should acknowledge that merely spending more money is not necessarily going to improve the quality of higher education. There is certainly food for thought in Philip Coombs's claim that despite our emphasis on research per se, we allot less than one-tenth of 1 percent of the educational dollar for research designed to improve the processes and outcomes of education. As many of us are repeating, education is not a business, but we do spend sizable sums of money, and even our most adequately supported institutions never have enough of it to enjoy the luxury of making educational decisions without regard to costs. Furthermore, none can afford the inefficiency and possible waste of uninformed decisions: hence, our common obligation to work continuously for improved efficiency and effectiveness.

Our fundamental consideration in the matter of evaluating costs, it seems to me, is not whether we shall employ admittedly imperfect methods, but merely which kinds we are going to use. To be sure, the skepticism in educational circles regarding cost yardsticks and formulas is justified. As someone has said, they may confuse as well as clarify; they may obscure needs instead of pointing them up. To avoid being pressed into fiscal Procrustean beds which others will inevitably devise for us if we default, however, educators must give this whole problem more attention than has been their wont in the past. We must take into account the fact that a good deal of college and university policy-making and administration is diffused—by delegation, by necessity of specialized operation, and so on. Hence, the faculty, as well as full- and part-time administrators, need to be more keenly aware of processes and developments, needs, and specific methods of cost evaluation.

Cost identification and classification

Since the worth of an educational institution is its service to society, few would argue that its performance can be definitively appraised by a simple balance sheet or even an elaborate financial report. Like business firms, nonetheless, colleges and universities must balance expenditures against income. In some way or other, their costs are controlled; the only real question is how this is to be accomplished.

If educational rather than merely fiscal ends are to be served, then costs must be identified and classified in a functionally significant manner. More than twenty years ago a useful set of common categories was devised for the allocation of costs to such functions as general administration, instruction, organized research, extension service, the library, physical plant, and maintenance. Yet it

is probable that a good many institutions still have a clearer idea about whence their money comes than where it goes. And here, I might add, I am not thinking about such hotly disputed items as "institutional overhead"!

Even so, we have made progress in developing and utilizing standardized classifications. (Every college and university president must know that for many intents and purposes he is to be counted an "indirect cost.") There are standardized taxonomies, for example, which tell us how to classify such miscellaneous activities as glass-blowing, book-buying, grade-recording, atom-smashing, and convention-attending. Of course, some elements lend themselves more readily to classification than do others, and there is an unavoidable arbitrariness in the sorting process. Just as Corvairs and Cadillacs are both defined as automobiles, so do the basic classifications of institutional costs frequently disregard the qualitative differences they embody. Still, to apply the "input" concept of economics to the campus itself, we have learned that books and buildings, laboratories and lecturers are cost factors to be identified, classified, and, for some purposes, thought about in purely quantitative terms. We have found that "student mix" is just as important as the total number of students in any really significant calculation, and in most states administrators have even succeeded in getting legislatures to recognize that there may be very good reasons why an institution of 10,000 students may justifiably cost more than twice as much to operate properly as one of 5,000.

In short, taxonomic knowledge regarding educational costs has been developed to the point that formulas can be derived for different types of programs, levels of instruction, and degrees of institutional complexity. All of this makes it possible for educational planning to proceed with a better understanding of the means required to achieve desired ends. It also enables those who must provide the material resources to have more confidence in the validity and reliability of the requests presented to them.

The problem of measurement

Educational costs usually cover diffused functions rather than discrete entities, and classifying them properly is not always a simple problem. Still more difficult is the problem of quantifying or measuring them. The two procedures commonly employed are the percentage distribution method and the unit cost method. Each has its advantages and disadvantages.

The percentage distribution method serves its purpose best when applied over a period of years to a single institution in which role and scope have remained relatively constant. It yields those pie-shaped visual aids with which we like to relieve the tedium of our verbiage in presenting reports to the trustees, alumni, and others to show what a small slice of the educational dollar goes for general administration.

Although the percentage distribution method has its valid uses, the unit cost method seems to be preferred by those who wish to understand the physiology, rather than merely describe the anatomy, of institutional expenditures. One of the favorite functional elements in getting at complex interrelations is the student-credit-hour. In short, the budget analysts have taken us academicians at our word in making this a common denominator, except that they are thinking of dollars instead of learning. Just as we equate large and small, green and overripe "apples" (not to mention lemons, potatoes, and cabbages) in calculating hours for graduation, transfer, and what not, so do they. The principal contrast is that different grades are not assigned by educational cost analysts to good,

average, or poor teaching. Being honest as well as analytical, they make no pretense of doing so. In brief, the unit cost method gets at quantitative rather than qualitative aspects of institutional functions.

Nonetheless, it has proved to be a very useful device. When rightly employed, it shows the extent to which teaching costs are affected by such factors as instructional method, size of class, faculty loads and salaries, total volume of teaching activity, and so on. Some of the results obtained merely pin down what common sense would suggest, but others run counter to widely held educational beliefs. The recently published California and Western Conference study, for example, found that high or low costs are not peculiar to specific subjects, fields, or institutions. It also ascertained that teaching salaries appear to bear no fixed relation to cost per student, thus making it possible to raise academic salaries and lower unit costs at the same time. This study and others of like nature suggest that thoroughgoing cost analyses have many positive implications for educational policy decisions.

California, Texas, Oklahoma, and a number of other states now employ rather involved statistical schemes to arrive at norms and formulas which are used as bases for legislative appropriations for all state-supported colleges and universities. In Texas, for instance, the Commission on Higher Education recommendations and legislative appropriations are categorized according to such basic functions as general administration, resident instruction, library, physical plant, and so on, with the student-credit-hour rate as a determining factor in several categories. Formulas have been devised in terms of a program approach, with teaching salary rates for sixteen different programs and three different levels of instruction.

As yet, I am not aware of the development anywhere of units, reliable or otherwise, to gauge the presumed or real costs of such functions as public service and research. Implicit in much of this effort is the attempt to quantify a bewildering array of variables and to formulate norms of productivity. Perhaps the greatest success has been achieved in assessing and comparing plant utilization, but performance in teaching, research, and public service with regard to qualitative achievement has thus far eluded real measurement. Russell and Doi, in their extended series of articles on this whole subject in the journal *College and University Business* took pains to point out in conclusion that low unit cost may indicate efficiency or it may equally suggest low quality, and, conversely, high cost does not necessarily mean high quality.

Abuses of cost evaluation

To recast a familiar quotation, obsession with costs can lead us to know the price of everything and the real value of nothing in higher education. The use of averages as norms, for example, carries with it the virtue of standardization, but it also may lead to the vice of leveling down to mediocrity. In some of our institutions and public school systems with set appropriations per pupil, fixed salary scales, rigid seniority rules for promoting teachers, and standardized class size, we can already witness the adverse effects of a uniformity which can be disastrous to the rich diversity of higher education. Averages, units, and norms can be very useful concepts, but they can also be dangerous ones. When applied indiscriminately, without regard to institutional differences in role and scope and heedless of quality, they can nullify the meaning of the one adjective in the phrase "higher education."

Some of the factors we need to get at most in the educational process we have not begun to reduce to manageable

terms. As has been mentioned in some of the literature, there is likewise a tendency of unit methods, formulas, and other pat criteria to become frozen. The slowness of political processes affecting public institutions is such that criteria are often based upon outmoded data to begin with, and once accepted there is a reluctance of governmental agencies to make upward revisions of rates and ratios. Moreover, these devices are merely aids in making what are often very involved decisions, and should not be treated as substitutes for the exercise of careful judgment. Decision-makers who are one or more steps removed from actual educational operations need especially to be aware that statistics often reveal little or nothing about the factors making for excellence in higher education. Unless we know these factors, as various analysts have observed, there can be no firm assurance about how any given institution should be operated or how much it should cost.

Use of cost evaluation

Regardless of shortcomings in available methods of cost evaluation and fairly common abuses resulting from their improper application, there can be no question about the offsetting value of their discriminate use. Every institution needs to know with some degree of precision how much time, money, and energy it is giving to various objectives, and it also ought to have expenditure norms for similar activities elsewhere. The uses to be made of this information will depend, of course, upon the purposes of the college or university and who determines those purposes and their implementation.

Through the application of unit and percentage distribution cost analyses, an institution may ascertain, for example, that plant operation and maintenance expenditures are rising at disproportionate rates; or it may learn—as did some independent liberal arts colleges which participated in the Sixty College Study—that increased sums being spent on counseling, public service, and administrative and recruitment programs were eating away the resources left for basic teaching. Whether it would then wish to adopt some of the drastic measures proposed by the late Beardsley Ruml and others to conserve more funds for teaching salaries would become a conscious policy decision.

To be sure, some institutional costs are subject entirely to outside determination (for example, utility rates), and most inquiries are directed toward operating expenditures, without reference to capital investment or depreciation. As long as everybody concerned understands the hidden element of largess in most educational services, there can be no objection to the prevailing practice. Yet those who make educational policy, and more especially the faculty, must realize that an uncoordinated multiplication of the programs and services of any institution may seriously diminish its efficiency and effectiveness, and eventually threaten its solvency.

Cost criteria are more useful when their purposes are understood, when they are based on adequate data, and are sensitive to situational differences. They should be changed when circumstances warrant and should be applied with skill and discrimination. As I implied earlier, some of our methods are so subject to error that identity of labels is no guarantee of similarity of content in making either intra- or interinstitutional comparisons. Many of the presumed "measures" of institutional efficiency are at best educated guesses. Aside from the fact that basic qualitative features of the educational process have thus far not been expressed in quantitative criteria, we still have a lot to learn about the effects of over-all size alone.

Instead of resisting the effort to refine and extend this kind of appraisal, however, I think that we educators should encourage it, as many are already doing. Where there is interinstitutional equivalence, comparisons should be made and the similarities and differences evaluated by those who are close to actual operations. Even though many consider institutional comparisons of any sort to be odious, how else can the effectiveness of some policies be judged? For instance, Russell and Doi concluded from their comparative analysis that a wide spread of salaries within professorial ranks is a good device for getting and holding a strong faculty. And yet, majority faculty sentiment, not to mention some administrative opinion, runs in the opposite direction. Or, to cite another comparison, the A.A.U.P. attaches much more importance to minimums and averages than to maximum figures of faculty compensation in its published salary gradings of colleges and universities. It would be both interesting and useful to know which of these three desiderata is *actually* most important for a long-range policy of faculty improvement.

To get more empirical evidence about the educational consequences of various policies and practices, it is apparent that we need more interinstitutional studies. The aim of such studies should be the unleashing, rather than the leashing, of educational enterprise; and a broad, rather than a narrow, perspective is required. In view of the complexities involved and the ends to be served, actual conduct of the research and its application is an endeavor worthy not only of our concerted attention but also of our best effort.

Although there are more unanswered than answered questions in the whole matter of institutional costs, we already know enough to be aware that concern with efficiency of operation means taking a hard look at some areas. One of these is proliferation of the curriculum and another is the plethora of small-sized classes. We know that low student-teacher ratios and individualized teaching methods are costly; if we think they are worth the price, our task is to justify them. Also, as analyses of medical education costs have specifically demonstrated, there is a serious waste involved in avoidably high student attrition rates. This suggests the relevance of cost data to institutional policies regarding selective admission versus selective retention of students for particular programs. In the instance of physical plant maintenance, many institutions are irrevocably stuck with past mistakes, but enough useful knowledge is already at hand about this phase of institutional operations to avoid similar errors in the future.

Insofar as most of our state-supported institutions are concerned, cost evaluations are commonly used on the outside by central budget offices, legislative committees, commissions, and governors' staffs. Internally, they are utilized principally by key administrative officers and trustees. In private colleges and universities, the uses, naturally, are largely internal. Some criteria are more appropriate for one level of review than for another, of course, but basic criteria should be suitable for all levels. On every level, it is encouraging to note, there appears to be a growing desire to concentrate resources on what is most productive.

Since the pursuit of knowledge for its own sake is seldom an aim of cost evaluation in higher education, the fundamental consideration is the use to be made of knowledge. In my judgment, the most important use is to get maximum utilization of available resources and to secure badly needed increases in them for the momentous tasks confronting our colleges and universities. To make our case persuasively, I believe we should

rely less on rhetoric than on all the facts we can muster.

Conclusions

In conclusion, I want to make a number of generalizations:

1. Like all other human enterprises, colleges and universities are not 100 percent efficient. Some of the unnecessary expenses and wastes in American higher education have been created by public pressures, which have resulted in the indiscriminate establishment and inadequate maintenance of particular institutions. Others have come about as direct responses to lay demands for unwarranted program proliferation and duplication, both within and among institutions. These and other manifestations, over which educators sometimes have little real control, are in large part inherent costs of the localized freedom in decision-making which goes with decentralized support and control in an educational system.

2. Educational institutions are under no less obligation than other institutions to operate as efficiently as possible. But it should be remembered that they do not produce standardized products. Their costs should be scrutinized and compared, but more to the point would be a comparison and evaluation of their educational effectiveness. The two processes should be joined in planning and in administration.

3. Appropriate criteria for evaluating some of the costs of higher education are already available; more and better ones doubtless will be developed. Their utility and improvement deserve our close attention. Of even greater importance, however, is the continuous experimentation required to economize effort and improve results.

4. Institutional planning is too often merely a matter of campus planning. The entire educational program ought to be projected in time and space with reference to student enrollment, types and levels of programs to be offered, emphasized, and de-emphasized. As Philip Coombs has correctly stressed, we need more operations analysis and improved operations reporting. Planning should go on among, as well as within, institutions. The laissez faire of former times is no longer adequate to the urgencies of our total society, and there must be more state-wide, regional, and indeed nation-wide planning. Likewise, within institutions, faculty, administration, and trustees all need to work toward centralized planning and better coordination of effort.

5. Moreover, the urgency for maximum utilization of educational resources should not result in false or misplaced economies which stand in the way of improving education. The Problems and Policies Committee of the American Council on Education rightly asserts that many of our criteria must transcend those of commerce and industry, with the end in view so important to both the individual and society that true economy dictates choosing the most effective, rather than the least expensive, means. Although the price of excellence is high and inevitably rising, the committee goes on to state, it is less than the cost of settling for educational mediocrity. In the final analysis, therefore, the price of educational adequacy is not really a cost but an investment promising rich returns.

How Do College Students Learn?

ROBERT A. DAVIS

COLLEGE teachers have definite and varied opinions regarding teaching methods. Some teachers believe the student learns best when he uses a form of the problem approach; others insist that he learns best when he listens to lectures and participates in discussion. Certain instructors employ a variety of activities but rarely give tests; others use few activities but give tests frequently. Most teachers find it necessary to resist the tendency to assume that when they have demonstrated mastery of subject matter and skill in its presentation, students come into possession of the information and abilities involved.

This tendency to associate teacher activity with student learning is being given added support by various educational organizations and committees [1] as well as the Ruml Report.[2] Many college and university administrators now seem committed to the notion that teaching effort must be made to go further by means of carefully planned lecture and TV presentations.

Learning activities may center around the teacher or around the student. The lecture occupies the focal position among activities involving the instructor. It may be formal and reflect careful preparation and systematic presentation; but frequently it is informal, and questions and discussion are encouraged during its progress. In using *television*, the lecture is necessarily more formal. In this type of lecture the teacher devotes considerable time to organizing materials and gives special attention to devices such as charts and diagrams for clarifying his presentation. Added to these is the special effort to dramatize the lecture, making it challenging and interesting. The *demonstration* is used in various ways, depending upon whether its purpose is to develop skills, as in physical education and music, or to illustrate principles, as in biology and physics. It is employed most frequently to supplement the lecture.

As an activity, *discussion* may center on either the student or the instructor. It may be planned for small groups for the purpose of exchanging and clarifying ideas. If the activity is group discussion, it is important to know the extent of participation by its members and the kind of leadership exercised. In most cases, discussion is rarely an activity in its own right, but rather is associated with the lecture, where the student asks questions, ventures opinions, takes issue with points of view expressed, or requests elaboration by the instructor. The teacher is the focus of attention because he stimulates the questions and usually approves or provides the answers.

Activities that tend to draw the student into a more active learning role than those centering on the teacher include problem approaches such as the *project*, the *case study*, *laboratory work*, *library research*, *independent study*, and various types of *group-discussion* and *group-study* procedures. Instead of assimilating the discussion or interpretation provided by the teacher or textbook, the learner is encouraged to derive his

[1] *Second Report to the President*, The President's Committee on Education Beyond the High School (Washington: Government Printing Office, 1957). See also *New Dimensions in Higher Education; Effectiveness in Teaching*, U.S. Office of Education (Washington: Government Printing Office, 1960).

[2] Beardsley Ruml, *Memo to a College Trustee* (New York: McGraw-Hill Book Co., 1959).

own generalizations, principles, or interpretations. He moves from relatively passive learning situations to relatively active ones. Few teachers use problem approaches as major activities in learning, but many use them in connection with other activities.

What activities are effective in cultivating certain kinds of learning, and how does one activity compare with another? Answers to these questions have been the objective of a number of investigations. For purposes of experimentation, activities that are teacher-centered may be compared with those that are student-centered. When the research design provides for clearly differentiated activities, the results afford clues to their inherent value. Several studies which meet this criterion will be reviewed.

A series of experiments was devised by Cook [3] to test the effectiveness of certain activities in teaching introductory sociology courses. The studies were designed to measure the effect of different methods on the *acquisition of information, critical thinking* (problem-solving), and *attitudes.* In one of his studies a class was taught by the usual lecture method, whereas another was organized into small groups, each subgroup concentrating on a problem chosen by its members. For students in the second group, there were few lectures but many field trips. Certain specialists were also invited to share their ideas in group discussion. The instructor assisted in directing the activities but did little more.

In this experiment two contrasting learning situations were used. In one, the students attended lectures, took notes, and read assignments. In the other, the students assumed major responsibility for the class. They chose their own problems and collected the needed information, which was discussed in small groups. They were expected to discover solutions to problems with a minimum of direction.

The results of the experiment decidedly favored the group that assumed major responsibility for solving problems. The two groups showed the same average gain of 22.5 points on tests measuring *recall of information.* The gain of the problems group was 14.8 points on *attitudes,* which was approximately twice that of the *lecture* group. On tests of *critical thinking* (problem-solving), the gain of the problem group was 12.1, compared with 3.5 for the lecture group. Cook believes the lecture-textbook system of teaching makes its greatest contribution in imparting information, but that retention of such information beyond immediate recall is low.

A novel approach to the study of activities was used by Bloom,[4] who was interested in determining the student's mental processes while *listening to lectures* as compared with those involved in *group discussion.* Which method is more effective when the thinking of the student is considered? Each student in both groups was interviewed forty-eight hours after a class period while a recording of the group activities was being played back. The findings show that the lecture is superior to discussion in developing information about a subject. On the other hand, the discussion method is better from the standpoint of developing abilities and skills of a problem-solving nature.

[3] Lloyd Allen Cook, *College Programs in Intergroup Relations* (Washington: American Council on Education, 1950). See also Lloyd Allen Cook and Rupert C. Koeninger, "Measuring Learning Outcomes in Introductory Sociology Courses," *Journal of Educational Sociology,* December 1939, pp. 209–25.

[4] Benjamin S. Bloom, "Thought Processes in Lecture and Discussion," *Journal of General Education,* April 1953, pp. 160–69.

In a study by Ward,[5] the purpose was to determine whether subject matter in physical science would be learned better by the *lecture-demonstration* method or by a *group-study procedure.* In one situation, a group learned by the lecture-demonstration method; in the other, the students learned by a group-study procedure where they assumed responsibility for assimilating and interpreting course materials. The efficiency of the students under these contrasting methods was measured by two kinds of tests: one requiring recall and recognition of facts, principles, and symbols; and the other requiring an understanding of the implications of facts, principles, and problems. The subjects were students enrolled in the general education program at Pennsylvania College for Women.

Test results indicated that the lecture-demonstration method was better for recall and recognition of facts and principles, especially in the case of the less capable students. In contrast, the group-study procedure was better from the standpoint of understanding the implications of facts and principles. This method was definitely superior for the more capable students. The abler students profited from both the lecture-demonstration and the group-study methods.

Activities that are teacher-centered tend to make the most direct contribution to the acquisition of information. The process of acquiring information may involve rote memorization of boldface statements in a textbook or significant points gleaned from a lecture. It may also be on a higher level than rote learning, and involve memorizing the substance of the main points made by the teacher or textbook and expressing them in the student's own words. It may consist, for example, of naming in any order the advantages of the true-false type of test or the major causes of a particular war. The student who studies the textbook and the lectures in this manner welcomes short-answer tests that permit him to list the items of information he has memorized.

A still higher level of acquiring information is the process of assimilating learning materials. During his study the student learns to express the ideas and words of assigned readings and lectures in his own words and demonstrates his knowledge through discussion or the essay examination. His purpose is to answer questions in a manner acceptable to the instructor. He is not usually concerned with evaluating his material or giving any personal reaction to it; instead, he strives to assimilate the information as given with a view to its recall.

The assimilation of information is the common denominator of all learning; without it the student is unable to solve problems or to apply knowledge. Most teachers of undergraduate subjects, in particular, are happy when their students have reached this level of learning efficiency. It seems doubtful, however, that materials assimilated through activities centering on the teacher have high retention value.

Retention studies of college subjects taught by lecture methods show that as much as 50 percent of the material acquired at the end of a course is forgotten after a one-year period.[6] Two years after completing a course the amount forgotten may be as high as 75 percent. It is pertinent to ask whether the information thus acquired was ever thoroughly

[5] John N. Ward, "Group-Study versus Lecture-Demonstration Method in Physical Science Instruction for General Education College Students," *Journal of Experimental Education,* March 1956, pp. 127–210.

[6] Henrietta Freud and Nicholas D. Cheronis, "Retention in the Physical Science Survey Course," *Journal of Chemistry Education,* June 1940, pp. 289–93. See also J. E. Wert, "Twin Assumptions," *Journal of Higher Education,* March 1937, pp. 136–40.

assimilated or if it was mastered only to the point of recall at the time of initial measurement.

Activities that center on the student contribute in varying degrees to many types of learning. In experimental investigations, students using such activities are frequently at no disadvantage on tests requiring recall of information. They are perhaps less likely to possess extensive though superficial knowledge of a subject; what they lack in breadth of information they gain in comprehension and assimilation of the significant ideas and problems within a subject. They are also more likely to evaluate[7] learning materials and to develop certain convictions and points of view. Inasmuch as their learning is characterized by depth rather than breadth, they more readily perceive interrelationships of information and apply their knowledge.

Activities requiring direct involvement of the student in his task also tend to develop learning that is retained over long periods with slight loss.[8] The student who reviews research and writing on a topic and compresses the information collected into a systematic report probably will never forget the main points; but he is not likely to remember much of the regular course materials from lectures and assigned readings. One who has devoted a considerable period of time to laboratory experiments probably will always remember the methods employed. A graduate never completely forgets the substance of his master's or doctor's thesis or materials involving projects in which he was actively engaged. Retention is not the sole criterion of thorough learning, but it is significant that learning material which involves the student directly and actively has high retention value; that which involves him indirectly and inactively has low retention value.

Many difficulties are encountered in the effort to evaluate the full effectiveness of different learning activities. One of the most obvious is that an activity is rarely employed exclusively, even in experimental situations, but rather in combination with others used in instruction. There is also the problem of devising instruments which measure the kinds of learning cultivated by the different activities. Not the least of the difficulties encountered in evaluation is due to the nature of the learning process.

Instruction would be easy if the learning process could be mechanized. If this were possible the teacher could select and supervise particular activities with the assurance that certain results would be attained. The learning process is not that simple; the overlapping and spreading effects of practice must be recognized. In teaching an educational research course, for example, three major objectives may be outlined: the ability to assimilate information about research; the ability to analyze and classify research methods; and the ability to evaluate research studies. The direct route for developing ability to assimilate information would be through reading and listening to lectures. If the student is to develop the ability to analyze and classify research methods, his activities must include an analysis and classification of original investigations. If he is to become proficient in evaluating research, he must make critical analyses of research studies.

[7] Thomas F. Stovall, "Classroom Methods: Lecture *vs.* Discussion," *Phi Delta Kappan*, March 1958, pp. 255–58.

[8] W. W. Cook, "Measurement in the Facilitation of Learning," in *Educational Measurement*, E. F. Lindquist, ed. (Washington: American Council on Education, 1951). In a summary of research findings on retention, Cook points out that learning that involves problem-solving relationships is relatively permanent. "How was it learned?" is the important question.

The teacher selects activities believed to be effective in cultivating certain abilities. Almost any kind of activity, however, will contribute in some measure to all abilities being developed. While the student is reading assignments and listening to lectures in the research course, for example, he is learning how to analyze and classify research methods; and he is also forming opinions regarding deficiencies of research studies. Similarly, the other activities in the research course contribute to assimilation of information about research. A single activity may contribute directly to the development of a particular ability, but several are often required to ensure thorough learning. The student's learning is strengthened when he responds in a variety of ways to the materials at hand. Nelson [9] compared the effect of vocal and instrumental instruction on musical comprehension. On the basis of his results he concluded:

> The data collected strongly indicate that the integration of both *vocal* and *instrumental* instruction tends to develop . . . a broader base of musical comprehension than can be obtained through vocal training.

Several activities are needed to provide for student differences. Dearden [10] tested the effectiveness of four types of activity in teaching a biology course designed for college freshmen and sophomores not intending to major in science. The activities were: *individual* (conventional) *laboratory, demonstration laboratory, workbook exercises,* and *term paper.* The effectiveness of these activities was measured by tests of biological knowledge, scientific thinking, and attitude scales.

Each of the activities had the effect of increasing scores on the tests, but the *individual laboratory* made greater provision for individual differences and thus permitted the student to work at a rate more consistent with his ability. Dearden believes that all of these activities could be used advantageously in a course, although stress should be placed on individual laboratory work. He also feels their use in combination would increase the student's interest in biology.

In experiments on teaching zoology, Tyler [11] shows that certain students learn principles through laboratory exercises; some learn through demonstrations and problems; and still others, through different kinds of activity. He believes that no single method or activity is equally effective with all students. Loomer [12] reached a similar conclusion on the basis of the effects of several methods of teaching art. He says:

> . . . some learn best through lectures and demonstrations . . . where the emphasis is on verbal learning; others . . . learn best in a laboratory situation where the actual manipulation allows more motor coordination in the learning process.

The greater the extent to which the activity involves the student and not the teacher, the better. If the activity centers on the teacher, as in the lecture, its effectiveness depends upon stimulation of the learner's own responses. The lecture must cause the learner to assimilate materials, search for further knowledge as a means of verification, work on problems involving the ideas expressed, or

[9] Carl B. Nelson, "An Experimental Evaluation of Two Methods of Teaching Music in the Fourth and Fifth Grades," *Journal of Experimental Education,* March 1955, pp. 231–38.

[10] Douglas M. Dearden, "An Evaluation of the Laboratory in a College General Biology Course," *Journal of Experimental Education,* March 1960, pp. 241–47.

[11] Ralph Tyler, "Prevailing Misconceptions," *Journal of Higher Education,* June 1933, p. 288.

[12] Gifford C. Loomer, "A Study of Certain Effects of Three Types of Learning Experience in Art Revealed in the Drawings by the Participants," *Journal of Experimental Education,* December 1953, pp. 65–102.

ask questions for amplification. This need for active responses of the learner is also evident in viewing demonstrations, listening to discussions, or taking field trips in which he makes firsthand observations.

Failure of the teacher to provide activities requiring greater involvement of the student in his learning is probably due, not so much to his disbelief in their value, as to his ambition to cover large amounts of material within a limited time. In his impatience to assist the student, it is easier for the teacher to tell him what to do and how to do it than help him to help himself. Activities that center on the student require time, patience, and individual assistance.

ALTHOUGH the extent of the interest of business in education is greater than ever before, the interest itself has had a long history particularly in regard to in-company education. Training through apprenticeship began early in the industrial development in the United States, and until the late nineteenth century was the chief method of preparing for a career in business. Prior to the Civil War, apprenticeship arrangements were in many cases severe and even unjust, with little responsibility imposed on management. Between the Civil War and World War I some improvement in the status of the apprentice occurred, but it was not until considerably after World War I, with the passage of the Fitzgerald Act in 1937, that substantial improvement occurred. This act provided national standards of wages, supervision, and similar matters and provided for federal supervision.

But the rapid expansion of industry in the United States following the Civil War required far more in the way of education for business than could be supplied through apprenticeship methods. Accordingly, a number of firms became interested in establishing corporation schools, and during the years 1872 to 1901 "at least five such schools were established." This development continued until in 1913 the National Association of Corporation Schools was established. In 1922 this organization merged with the American Management Association. The corporation schools offered a variety of subjects aimed primarily at increasing the effectiveness of employees for particular jobs. These schools were favorably received; and, at the beginning of the twentieth century, it could be said that "apprenticeship training, supplemented by the corporation schools, together with practical on-the-job experience, were considered the most effective preparation for a career in industry."

The traditional type of education for business did not prove adequate to meet the demand for trained personnel that arose during and after World War I. In particular there was a need for persons with the capacity and training for management. It was during this period that industry turned to the schools; and, following World War I, a large number of colleges and universities established departments and schools of business. . . . The problem is complicated by the fact that business needs people who are capable of continuing their education beyond graduation and who have the basic training required to facilitate continuous growth. In order to meet its needs, business has increasingly taken part in the educational process.—*Educational Activities of Business*, by Oscar N. Serbein, published by the American Council on Education, March 1961.

Faculty Advising in Contemporary Higher Education

MELVENE DRAHEIM HARDEE

IN THE decade of the fading Fifties, there has been observed both *blight* and *bloom* in the educational activity known as *faculty advising*. With reference to the former, fleeting time and the changing role of college administrators and teachers have robbed the student of a sympathetic ear. The task of keeping the college alive and growing has placed upon the chief administrator particularly heavy duties relating to fund raising and public relations. Opportunities for frequent and continuing conferences with students have lessened. The predicament of the college dean is much like that of the president. But what of the faculty members? Is there hope for recovery from blight through their contributions?

The literary stereotype of the faculty member, as Havemann and West point out, has been that of a younger, somewhat more vigorous, but equally kind Mr. Chips. His delight lies in books, long walks, quiet conversations, flowers, birds, and students. He is brilliant in discourse and gifted in wit despite being absent-minded about meals, appointments, and general grooming. The professor of the novels is a kind of pedagogical Scattergood Baines, straightening out the lives of students without claiming credit.[1] But the technological age has touched the educator and fractionated the campus. The faculty member has become less of an ambling, shaggy-dog "do-gooder" and more of "an organization man." And it is this sudden transformation which has speeded the man in the mortarboard (and the woman, too) in the search for self. Just what and who is a faculty member these days? A researcher with allegiances to the supporters of his research? A consultant with portfolio and easy access to industry, business, and government? A community leader, a kind of tweedy man about downtown? A graying gray-flannel-suiter with strong after-five-o'clock allegiance to family? Any or all of these, whose "teaching" is something inserted in the side pocket of an academic robe? The continuing search of the faculty member for an identity is to be read in the literature of the times which focuses upon faculty needs, their working conditions, their future hopes.[2]

But the teacher in contemporary higher education is not the only one in search of identity. In the same half-century there have been other mutations —among them the rise of a group of educators designated as student personnel workers, likewise unsure of their role and function. These workers have been accorded "scout-like traits"; they are said to be reconnaissance men (and women) out looking for trouble. Or, they are, say some, like the U.S. Marines, sent in for lightning landing, fierce encounter, and extensive mop-up. Quite another observation is that they are a branch of the medical corps, picking up and patching up with a never-say-die zeal. He has

[1] Ernest Havemann and Patricia Salter West, *They Went to College* (New York: Harcourt, Brace & Co., 1952), p. 252.

[2] See "What Significant Changes Need To Be Made in Present Conditions of Work for Faculty and Administrators?" in *Current Issues in Higher Education* (Washington: National Education Association, 1960), pp. 138–44. See also Theodore Caplow and Reece McGee, *The Academic Marketplace* (New York: Basic Books, 1958), and John Gustad, "They March to a Different Drummer," *Educational Record*, July 1959, pp. 204–11.

been variously labeled—this student personnel worker—and described with a series of adjectives beginning with *evangelistic* and ending with *parasitic*. On this last score he has been adjudged as *not* a teacher, research worker, or off-campus consultant in educational extension. The greatest error is that he is seldom seen as an aid to teachers and this Glanz decries:

> Personnel workers must ally themselves with faculty members in the process of education and learning rather than with administrators in the tasks of administering services, colleagues, or students. Administration is a legitimate concern within education but teachers are on the "firing line of learning" too often alone, without a counselor, tester, or personnel worker who is too busy "in the office" to be concerned with student learnings and the intimate process of individual education.[3]

With student personnel workers "hitting the beaches" in the thick of student raids, riots, walk-outs, and sit-ins, there has been the view in academic quarters that this task force, though usually admittedly small, could "take over" the complete range of student activities and student advisement. The remark too often made has been: "I haven't time to advise students. Let the ones who don't teach, engage in research, consult, and carry off-campus extension or other college service, do it." This has been the beginning on some campuses of a complete abandonment of responsibility for assistance to students. The helpful, contemplative adviser—like Annie—doesn't live there any more.

It is readily demonstrable that student personnel workers have an area of specialty which includes their performance in testing, the giving of occupational information, interviewing, initiating group procedures, case review, evaluation, and related activities. Feder predicts that in the future more student personnel workers will be drawn from the fields of the behavioral sciences. He affirms that these specialists will be in possession of a solid body of psychological understanding translatable into techniques which can be adapted to the worker's own personality and the situation in which he works.[4] But were they to increase in number and knowledge, there would still remain a pressing need for merging the efforts of student personnel workers and of instructional personnel. Ten years ago a group of conferees numbering college administrators, student personnel workers, and representatives of educational agencies formulated a set of twelve future needs, the second of which was designed *to achieve a higher degree of integration between student personnel services and instructional programs:* (1) making use of joint policy-making committees, (2) providing more readily available facts about students and their needs, (3) setting up better planned in-service training programs for members of the faculty interested in improving their interviewing and counseling techniques, (4) arranging case conferences involving faculty members and student personnel workers, and (5) organizing study groups of teachers and personnel workers considering group dynamics, general education, extraclass aspects of the learning process, and similar subjects.[5]

In the judgment of many who view the possibilities for merging the work of these two areas, the best "integrator" is that of systematic faculty advisement.

[3] Edward C. Glanz, "Personnel and Guidance Work in a New Era," *Junior College Journal*, November 1958, p. 143.

[4] D. D. Feder, "The Emerging Role of the Professional Personnel Worker," *Personnel Services in Education*, 58th Yearbook of the National Society for the Study of Education (Chicago: University of Chicago Press, 1959), pp. 181–209.

[5] *Future Needs in Student Personnel Work* (Washington: American Council on Education, 1950), pp. 7–8.

To a great extent, the aim of the program of faculty advisement is to restore some aspects of responsibility for student "assistance"—defined in terms of educational, vocational, and personal goals—to the teacher.[6] The move to place the *learner* more nearly within the influence of the *learned* in these respects has a parallel of sorts in other professions, notably, nursing. One discerns in conversation with leaders in the nursing profession—and from reference to the literature of the field of nursing—that the time has come to return the patient to the nurse—that is, to reduce the psychological distance between nurse and patient, to facilitate the communication of both.

In the college setting, the mentor, guide, and confidant of the college student—the teacher—must be accorded a place in the program of organized counseling *in line with his or her proven abilities.*[7]

Is the teacher by nature an adviser?

Among the models on whom personality is molded by adolescents through imitation are parents, older brothers and sisters, *teachers*, and age peers. That teachers are included is understandable in view of the traditional role of the teacher as a guide and helper. President Pusey of Harvard accents the importance of this role in commenting:

> . . . the teacher's task is not to implant facts but to place the subject to be learned in front of the learner and, through sympathy, emotion, imagination, and patience, to awaken in the learner the restless drive for answers and insights which enlarge the personal life and give it meaning.[8]

One is attracted at once by the emphasis upon "enlarging the personal life," by the citing of such words as *sympathy, emotion, imagination,* and *patience.* These words are not alien to counselors. It is questionable whether all teachers would accept the statement without reservation. Some might even disclaim it. It is to these disclaimers that Perry addresses himself, commenting:

> . . . the greatest source of anxiety among college students is their sense of isolation from their teachers . . . in the sense that the only communication one has with the professor and the institution at large resides in one's academic record. As one student said, "I feel like a B minus walking around on two legs."[9]

The advising function appears to be quite in harmony with the teacher's task of "placing the subject to be learned in front of the learner . . . awakening the restless drive for answers and insights and enlarging the personal life and giving it meaning." Basically, it *can* afford a signal opportunity for the consideration of the spirit of the learner in the climate of learning. To effect this goal, an understanding of the stereotypes and dimensions of faculty advising is requisite.

[6] Melvene D. Hardee, "Coordinating the Work of Teachers, Counselors, and Administrators," *Counseling and Guidance in General Education* (New York: World Book Co., 1955), pp. 306–31.

[7] The writer differentiates between *faculty advising,* an activity dispatched by members of the teaching faculty and directed toward assisting students with their educational, vocational, and personal concerns at a defined level of competence, and *counseling,* which enlists the efforts of personnel who are specifically trained and experienced in the behavioral sciences. For a more detailed discussion of this conception, see Melvene D. Hardee, *The Faculty in College Counseling* (New York: McGraw-Hill Book Co., 1959).

[8] President Nathan Pusey in the Harvard Crimson's *Fourth Annual Guide to Career Opportunities,* 1959.

[9] William B. Perry, "Conflicts in the Learning Process—The Student's Response to Teaching," *A Handbook for College Teachers,* B. B. Cronkhite, ed. (Cambridge: Harvard University Press, 1950), p. 34.

The stereotypes of faculty advising

Certain aspects of faculty advising have tended to gloss the process so that the true dimensions of advising—the length, breadth, depth, area, and volume—have been obscured. Among the stereotypes are these:

1. *The automat stereotype.*—This is the common "slip a coin in and get a schedule out" process wherein the student and adviser interact solely in a mechanical process of working out a "program" suitable for a given period of registration. Medsker in his survey of 73 junior colleges (and the criticism could as well apply to four-year institutions) notes that in many colleges the view prevails that when a student has been assisted in arranging a program of classes which has met his personal desires, the major task of advising has been fulfilled. Much more competent assistance deserves to be given in the way of decision-making in occupational choice, analysis of achievement record, help in solving personal problems affecting academic or social adjustment, and so on.[10]

2. *The thousand-mile check-up.*—This stereotype is one which conceives of the adviser as active in "arranging a program of courses" and subsequently checking a month or six weeks thereafter to see how the program has worked. This and little more! Havemann and West, in their citations of student dissatisfaction, note this stereotype described by the student as follows:

> . . . the university provided me with a freshman adviser to whom I was to go when my first month's grades were turned in, and regularly thereafter once a month. My particular adviser was an ascetic-looking assistant professor in English, very scholarly and by no means interested in callow freshmen. He had a half-dozen other freshmen besides me to advise, and his technique was to get rid of us as quickly as possible. Every month he gave me my grades and said, "That's fine; you're going very well." I said, "Thank you," and walked out. In later years, when I became interested in the institution of freshman advisers, I questioned numerous students on the campus and found not one who had received more advice from his than I had from mine.[11]

3. *The patch-after-crash stereotype.*—In this role, the faculty adviser is galvanized into action at moments of crisis. The student fails miserably, is entrapped in a violation of academic or social regulations, is about to drop or be dropped, with the result that the faculty adviser (like Fiorello La Guardia) races to the scene—office of the academic or personnel dean—with sirens blowing. Too little and too late is usually the appraisal of this well-intentioned but ill-planned maneuver.

4. *The malevolent benevolency.*—One more stereotype surely deserves to be mentioned. It is that one which pictures the faculty adviser as a mother hen, with wingspread like that of an eagle, hovering over the student by day and by night—protecting, preventing, paternalizing. Likely at some time or another, the adviser wonders if he is merely prolonging infancy. But these times should be rare—in the early weeks, for instance, when for the freshman the breaks from home and hometown seem cataclysmic. Any program of faculty advising which stultifies human growth cannot be justified.

There are assuredly other stereotypes—but these serve to illustrate some of the myths and confusions about the advising role. All of these, of certainty, miss the point of real importance: *the consideration of the intent of the learner in the climate of his learning.*

[10] Leland L. Medsker, *The Junior College: Progress and Prospect* (New York: McGraw-Hill Book Co., 1960), p. 163.

[11] Havemann and West, *op. cit.*, p. 260.

The dimensions of faculty advising

Faculty advising is a tridimensional activity, consisting of: (1) discerning the purposes of the institution, (2) perceiving the purposes of the student learner, (3) postulating the possibilities for the student as a learner and promoting these as means are available.

1. *The first dimension.*—Discerning the purposes of the institution requires a knowledge of institutional aims. Within these, the goals of general and professional education must be understood. How the content of the individual courses and the method for their teaching come to produce a whole learning is part of the lesson to be learned by advisers. Advisers will seek to know the climate of learning in this institution—the image it has for prospective and present students, the texture of the campus, its feeling, and *its* spirit. Studies focusing upon the climate of learning in specific institutions give hint of the size of the task of comprehending the college.[12]

2. *The second dimension.*—Understanding the purposes of the student is closely related to the first dimension when one considers the fact that students of a given "nature" conceivably gravitate toward that institution which will fit their kind. The purposes of the college student are a blend of many interests, needs, and abilities and of family and cultural influences.

Advising of women students will be done with recognition of "the discontinuities"—work, marriage, resumption of work for a short period, withdrawal from work to begin a family, return to work in spaced intervals, or "permanent" return to work when the last child is in school and while the woman is yet young, mid-thirties or early forties.

To understand the current theories of vocational development for both men and women, the faculty adviser will look to the professional counseling staff for assistance.

3. *The third dimension.*—This is the review of possibilities for facilitating the student's learning and the promotion of these in cooperation with him. It is the ultimate in the advising role. In the play which ran on Broadway, *Five Finger Exercise,* Clive, the college man, discusses with his father how he feels about college, saying:

> . . . being educated . . . is like setting off on an expedition into the jungle. Gradually most of the things you know disappear. The old birds fly out of the sky and new ones fly in which you've never seen before. And everything surprises you. Trees you expected to be just a few feet high grow right up over you. . . . I think education is simply the process of being taken by surprise, don't you see? [13]

In the third dimension of his role, the adviser not only helps keep the surprises *in* education but also aids the student in relating the surprises to his own and society's goals. The perceptive adviser facilitates the student's growth in wisdom, in the appreciation for and exercise of knowledge, and in the integration of learning.

What has been covert in these remarks must be obvious now—that the faculty adviser who is a *teacher* is also a *learner.* The task of learning about the institution, its students, and the means for aiding them in fulfilling their potential is one of sobering magnitude.

[12] See T. R. McConnell and Paul Heist, "Do Students Make the College?" *College and University,* Summer 1959. Also see George G. Stern, "The Ecology of the American College Student: Varieties of Constraint in American Education," a composite of papers read at the American Psychological Association, Cincinnati, Ohio, September 1959, and at the New York State Association of Deans and Guidance Personnel Convention, New York, November 1959 (Mimeographed). Also C. Robert Pace, "Current Research on Student Characteristics," a paper presented at the Institute on Institutional Research, Florida State University, Tallahassee, July 1960 (Mimeographed).

[13] Peter Shaffer, *Five Finger Exercise* (New York: Harcourt, Brace & Co., 1958), p. 33.

The Interpretation of Tests in Counseling Students

BERNARD SAPER

STUDENT counseling has developed into a big and important business in the university. In part it has grown out of our democratic determination to help the student as a person to make the most of himself. It has also derived from our unique technological approach to life, an approach which puts a high value on expert assistance and the pertinent scientific procedures which the expert presumably relies on in order to give this assistance. And, finally, it seems to be based on the fact that everybody these days is incorrigibly test conscious. The person with the test—in this case the counselor—has been accorded an exalted place in the decision-making and advice-giving departments of our curriculums.

Although to a large extent the counselor, in his interaction with the student, interprets tests, this use of tests must be subordinated to the wider and more essential aims of counseling. These are to acquaint the student with his assets and liabilities, to help him assimilate this knowledge and act on it, and to be able to make the best possible adjustment. This is indeed a tall order. In executing it, the counselor must be careful not to exaggerate or oversell his tests and his professional skill. He must avoid dressing his crystal ball, if this is what he is using, in more presentable and scientifically more creditable test-clothing, as it were. He must also recognize that the test, because of its apparent finality, status, and authority in our society and in academic places, is potentially as much a weapon, a bludgeon, as it is an aid. Students, persons in need and unable to make realistic decisions, are unusually vulnerable. Much harm can be done by a counselor's unconscionable indelicacy, by his being certain and positive when these attributes are not called for, and by his foisting values on the student which are subjectively built and rewarding only to himself personally.

Three crucial aspects of the counseling process must be considered in discussing the interpretation of test results. Test interpretation can be meaningful and constructive only if: (1) there is a proper psychological atmosphere that pervades the relationship, (2) the counselor makes use of appropriate techniques of good communication, and (3) he has a thorough, technically sound comprehension of tests and measurements in general and the instrument he is interpreting in particular. These three aspects are crucial whether the counselor is identified as a psychologist, a consultant, a teacher of English whose main function is not in the area of counseling and guidance, or a dean who deals almost exclusively with students in difficulty. In a sense they describe any conference or interview situation in which two people come together seriously and purposefully in order for one to render assistance to the other.

1. The first important function of the counselor is to create an atmosphere that is conducive to good counseling and to an adequate interpretation of the test results. Without such an atmosphere it is virtually impossible for the test results to be made meaningful and for the student to benefit from this new knowledge. In creating this atmosphere, the counselor tries to build up a feeling in the student of being understood, accepted, and respected. While the counselor does not make any attempt to sugar-coat the data he is about to give him, he never-

theless permits the student to react to such information in his own terms. This means that the counselor must listen to the student, try to understand him, and show him in some way or another that he is sensitive to his feelings, his needs, his emotionalized attitudes, and his general state of mind. While the counselor is uninvolved in the test results and tries to be as objective as possible in conveying them to the student, he also attempts to be as warm, considerate, and nonretaliatory or nonpunitive as possible. This is the usual atmosphere which prevails in a situation where the people involved have a deep understanding, respect, and constructive good will toward each other.

2. Within the positive psychological atmosphere described, the counselor tries to communicate the results of the tests as he has them to the student. Before he does very much with the test results, he must decide what meaning these results will have for the student. He must give the dialogue a certain anchorage in the cultural, class, and general milieu of the student in order to make it meaningful to him. He must take into consideration the level of sophistication of the student with reference to the tests, while at the same time he must be sure not to condescend to him. He must also be alert to the probability that the student comes to counseling with certain defensive reactions which he will muster up as quickly and as strongly as he can in order to preserve his feelings of self-respect and self-esteem.

The student will also have a tendency to distort information in the direction of his own needs, and the counselor must be careful not to couch his communications in such terms that distortion is facilitated. He also allows the student to save face. That is to say, the student will occasionally need to rationalize. The counselor should feel that he is able to accept such rationalizations for what they are and the self-protective purpose they serve. If these rationalizations are of such magnitude that they would prevent the student from taking constructive action on the basis of this new-found information, then the counselor may want to point out the nature of such rationalizations. However, it is advisable not to get involved in this kind of interaction unless a sound, warm relationship has already developed and the counselor is fairly sure that the student is really rationalizing.

The communications should be as simple and as uninvolved as possible. They should be as meaningful as possible. At no time does the counselor attempt to advise, inspire, exhort, or force his own values on the student. If he is seduced into taking such a role, he is ethically bound not to give the student the impression that these are scientific results stemming directly from the test. Of course, it is true that the counselor, like the rest of us, tends implicitly to be guided by certain basic, personal values. It is difficult, if not impossible, to tease out these values even in discussing such apparently cut-and-dried information as a score on an intelligence test.

3. The third aspect of counseling, the interpretation of test results, is most efficient when the proper relationship or psychological atmosphere has been established and the counselor adheres to good standards of communication. The variety of tests the student takes depends, of course, on the nature of his difficulty or problem. It also depends on the kinds of questions the currently available tests purport to answer. Finally, it depends on the specific tests, of the thousands which are available on the market today, with which the counselor is familiar. Usually he evaluates the student along several dimensions, being most interested in what kind of a person he is, what special and general abilities he has, and what his interests or preferences are. Accordingly, a battery

of tests would normally include measurement of the student's general mental ability, his interests, preferences or values, his personality traits, his specific aptitudes or talents, and his achievement in some academic areas. The results of these tests constitute the basic data for interpretation.

In interpreting test results, the counselor has to decide in what kind of terms he will talk about results. There is a great deal of emotional and unrealistic thinking about IQ scores, for example, and these would best be avoided. In a more technical sense the IQ is frequently different, depending upon the different kinds of tests that the individual takes. Rather than get involved in a long explanation of the pitfalls involved in talking about IQ's and in the emotionality that might result from dealing with these IQ's, it is best for the counselor to avoid them altogether. It is probably best to talk in terms of "average," "below average," or "above average" when one is talking about general mental ability. Should the test material warrant such an interpretation and should the student be sophisticated enough, the counselor may talk in terms of standard scores or percentile scores which are more meaningful and certainly more acceptable to the people who are working with tests.

It is not necessary to burden the students with technical information about the tests. The counselor, on the other hand, should at no time give any test interpretation to the student without having prior and thorough knowledge of the technical features of the test, including especially validity and reliability and the normative data. By reliability is meant the consistency with which the test seems to measure what it purports to measure. By validity is meant the degree to which the test measures what it purports to measure and the extent to which it achieves the goal for which it was constructed. Validity may have certain subcategories which are important in terms of what the counselor intends to do with the test. For example, if the counselor is interested in knowing merely how well the client is able to negotiate a given subject field, this calls for a kind of validity determination which is termed *content validity*. Concern for the client's vocabulary ability would require the use of a vocabulary test that measures this specific ability. Most often we use tests in order to predict how an individual is going to do in a particular course in the future or in order to estimate the probability that he will succeed. This is referred to as *predictive validity*. The counselor must have some information on how well the battery of tests he uses correlates with subsequent performance in, say, teaching, engineering, sociology, writing. Finally, it is important to have an idea of the class of individuals that this student is being compared with and will be compared with in his future work. The manuals of tests should have the distribution of scores for a number of such appropriate classes or groups, and the counselor must make a decision about which of these groups the client is to be compared with—college freshmen, beginning dental students, seasoned physiologists, or any other group about whom information is available.

This information with reference to validity, reliability, and norms is extremely important and the counselor will discuss the test results with the student on the basis of his knowledge of this information. Should it happen—and unfortunately it frequently does—that the reliability of the test is relatively low, and the validity is not too high, and the normative data are rather vague, based on small samples and not too well worked up, the counselor exercises much caution in using them. He is ethically bound and technically right *not* to give the student any information other than tentative, broad, indefinite statements about what

the test battery *suggests* or *seems to point up* with reference to his expected performance in a particular area of work or preparation. The student must be apprised of the fallibility of tests.

In interpreting tests to the student, the counselor should make frequent use of such terms as "other things being equal," "on the basis of the odds," "in an actuarial sense," and such other terms which give the student a definite feeling that we are dealing with him objectively and, metaphorically, in the same manner that we deal with a race horse when we attempt to predict what he will do in a subsequent race. The odds that we place on his future performance depend on a host of factors which we weigh and consider during our conferences with the client. There is, of course, always a possibility, in forming hypotheses about the future performance of an individual, that we might accept him as having good potential for a program or job when he has actually no potential. Conversely, we might reject a student when he really would be adequate.

There are numerous embarrassing and unpleasant individual situations in the history of counseling psychology where such unfortunate errors in prediction have occurred. We have learned that it is best to think in terms of a certain percentage of students about whom, no matter how thoroughly appraised and understood they seem to be, we will be wrong. Luckily, this percentage is rather small, and psychology has built into its own discipline and science the ways and means of cutting down the sources of error.

It must be mentioned that in making inferences about the future performance of a student, counselors use data which are somewhat less explicit than test information but which nevertheless are exceedingly important and useful. For example, during the interviews counselors continually derive impressions of the client—his feelings, needs, determination to succeed, physical characteristics, and so forth. There is other information which is important—the social status of the individual, his achievement in high school and in college up to the time of counseling, his attitudes toward others and toward himself, previous experience with the subject matter, and the occupation and education of his parents. The aspiring actor who wishes to become a leading man and is not, for example, handsome, may be confronted at the outset with an insurmountable difficulty. Obviously such information cannot be obtained from a test. With all this additional information at hand, the counselor is then able to temper or qualify the test results and increase his chances of estimating the subsequent performance of the student.

While it is a counselor's explicit purpose to convey this information to the student, his chief concern is with getting the student to express his own reactions to this material and to make a decision which may be properly implemented. To this extent, the counselor's main concern during counseling is to try to understand what the student is talking about, what the tests mean to him, and what constructive action he is willing and able to take on the basis of these new insights. Such an approach to counseling may require that it be continued over a period of some time, possibly several interviews, giving him sufficient opportunity to react to the new knowledge of himself and to integrate this knowledge into his concept of himself as a person, as a student, and as a potential business analyst, psychologist, or economist, as the case may be.

It must be emphasized that learning, mental health, and wise decision-making cannot be coerced, cannot be forced, cannot be pushed. It can only be facilitated by a propitious environment which the counselor tries to create. Freedom of

choice results from a suitable, possibly (hopefully) exhaustive number of alternatives that the student is confronted with and toward which he is able to act and react as a free agent.

In conclusion, it is worthy of repetition that the counselor accrues to himself a certain prestige and importance by virtue of his knowledge of psychological tests and being in a position to use these as a basis for advising and helping people in trouble. He must be careful not to abuse this knowledge and this position by exaggerating the adequacy of his tests and by overselling his presumably superior wisdom. In interpreting test results he may be holding up the mirror to silk purses and sow's ears. He should have considerable humility and restraint in doing more with this mirror than giving the students an opportunity to see themselves as they really are and to act positively and constructively on the basis of this insight.

At the present time the family dentist is one of the most influential persons in motivating young people to choose dentistry as a career; consequently, every effort should be made to furnish practicing dentists with the latest information a young person would desire regarding dental schools and dentistry. Since high school and college counselors do not play as large a role as they might in influencing students toward dentistry, these people should be provided with more information regarding the profession. If the advisers can be made more effective, they might be of great assistance to dental education in the future. . . .

Over 50 percent of the applicants believed that they decided to study dentistry before they were graduated from high school. Although many psychologists feel that it is very difficult for anyone to state the exact time at which he makes such an important decision, it appears that he makes it relatively early in life. Since less than 33 percent of the dental applicants believed that they decided upon dentistry while in college, it becomes important that any dental school recruitment program be directed toward young people early in their school life.

The six principal factors that influenced the 1958–59 applicants to select dentistry as a career are not controlled by the profession or an academic agency. . . . Service, interest, freedom, prestige, and money were most important, along with a desire by about three out of five applicants to work with their hands. Booklets, counseling services, aptitude tests, and career days appear to have had little effect, and every effort should be made to realize the full potential of these aids to recruitment.—"Dental Education," in *The Survey of Dentistry: The Final Report of the Commission on the Survey of Dentistry*, published by the American Council on Education, March 1961.

Commuter-College Parent

RANDALL W. HOFFMANN

ALTHOUGH most colleges are ruefully aware that parents can be a problem, the traditional residential colleges by and large find them a problem easy to shrug off. The commuter college, however, has to face the fact that parents are a pervasive daily influence on the lives of its students, and an influence, very often, that is at odds with some of the goals of the college. Some commuter colleges have decided to disregard the issue of parental influence; others have decided to cope with it, even perhaps to capitalize on the parents' proximity and availability to the college. Among the latter is Hofstra College, with a burgeoning parents program intended to clarify for parents the goals of the college and to enlist the parents' aid in achieving these goals.

Hofstra is a young college (founded in 1935) in Hempstead, Long Island, over 90 percent of whose students live within twenty-five miles of the campus. Located on a seventy-acre campus about twenty-five miles from New York City, Hofstra has a full-time enrollment of over three thousand and a part-time enrollment of over five thousand. It is a private, nonresidential college serving a suburban community of approximately 1,300,000.[1]

Hofstra has long observed the conventional relationships between parents and the college. Parents Day attracts well over five hundred parents every year; a parents newsletter has helped keep communications open; and the usual introductory letter from the dean of students gently warns mothers and fathers what to expect "now that Johnny is a college freshman." In the last two years, however, Hofstra has undertaken expanded and more intensive contacts with parents, prompted by the accessibility of commuter-college parents and by the hope of enlisting parental help, through better understanding of goals and problems, in the educational effort.

Hofstra is philosophically committed to the liberal arts. At the same time it is faced with a student body whose origins, by and large, "insulate" them from the idea of liberal education and instead motivate them toward vocational competence as the primary goal of college attendance.

From the Cornell Values Study, as reported in *What College Students Think*, it was determined that the social class of a student's family may very well be the chief factor in his feeling about the principal goal of a college education.

> . . . a disproportionate number of students who emphasize the practical, instrumental value of higher education cluster in the group who say their origins are 'working class.' It is to them particularly, that college education tends to be appealing as a means to an end rather than as a cultural end in itself. Perhaps they view it as a vehicle that will enable them to surpass the income and prestige positions they feel their families now have in the social structure. Their stress on the vocational function of college education may indicate the compatibility of this educational approach with a whole set of working class social values.[2]

A high percentage of Hofstra students hail from lower-middle-class or working-

[1] For a more detailed description see *The Saturday Evening Post* article of May 7, 1960, "How to Start a College from Scratch."

[2] Rose K. Golden, *et al.*, *What College Students Think* (Princeton, N.J.: D. Van Nostrand & Co., 1960), p. 15.

class families. They are predominantly first-generation college students: 60 percent of the fathers and 77 percent of the mothers have had no college experience. More than 20 percent of the parents are foreign born. In a relatively high percentage of the families both parents work full time.

In the light of these facts it is not surprising that the parents of Hofstra students for the most part think in terms of the prestige value of the degree and the vocational value of higher education.

The attack of colleges on such attitudes and values is generally concentrated on the students themselves, and changes, according to reliable authorities, do occur. Although

> many students go through college with a banalized and instrumental notion of what higher education means and never even become aware of alternative interpretations, . . . it is also true that something occurs during the college years that encourages and reinforces an academic point of view and that is less nurturing of the vocational approach to education.[8]

Since all but 10 percent of the Hofstra student body live at home, however, and are constantly influenced by the values and aspirations of the parents, it has been thought that more success would be achieved if the attack were directed toward the values of parents as well as of students.

The approach to parents consists of two facets: (1) during the summer, a large-scale "orientation" of parents of freshmen just prior to the actual programming and registration of the incoming class; (2) in the fall, a series of small-group discussion meetings with a limited number of interested parents.

The summer project was held for the first time on June 27 and 28, 1960, on an experimental basis, with 326 parents and 196 students attending. To keep the group down to manageable size, invitations were sent only to parents of students in the following categories: undecided majors, premedical students, biology majors, and pre-engineering majors. The total number was divided into four groups: one meeting on Monday morning; the second, on Monday afternoon; the third, on Tuesday morning; and the fourth, on Tuesday afternoon—each group including approximately 80 parents and 50 students.

In the first phase of each meeting an attempt was made through a four-man panel to give out general, but pertinent, information concerning Hofstra and its "community" character, some of the problems of adjustment to college, and the broad scope of the dean of students program, with emphasis on its relationship to students as they face the problems and pitfalls of college. Additional information was presented concerning the next steps in the student's advisement: programming procedures, Welcome Freshman Week in September, the orientation class, and long-range advisement practices. Departmental representatives were available for specific information concerning the academic areas. A ten-minute period was given to a representative from the Testing and Counseling Center for the introduction and explanation of the *Index of Academic Potential*, a device that was to be used in the second phase of the meeting.

Although two or three different methods were used in the first phase to get information across to parents, only the one which appeared to be most effective, in the light of subsequent evaluation, will be described here.

With 130 parents and students in attendance, a brief explanation of the purposes and procedures of the meeting was given by a representative of the dean of students office. The total assembly was then broken up into "buzz groups" consisting of three or four family units. The

[8] *Ibid.*, pp. 13, 14.

groups were given six or eight minutes to decide the two questions they would most like to have answered. Each group reported the results of its deliberation, and the questions were recorded on a blackboard. A panel of experts then proceeded to answer the questions.

The evaluative response of the parents to this procedure was considerably warmer than to any other.

In the second phase of the meeting the total assembly was again divided into clusters of family units, ten to twelve families to a cluster, and each cluster was sent to a separate room for discussion of the *Index of Academic Potential.* Two staff members were available for each group.

The purpose of the *Index* is to give parents some notion of how successful their son or daughter may be in the first semester of college. Based on College Boards and other available tests, the high school cumulative average, and the high school mathematics average, a formula has been worked out by the Testing and Counseling Center that allows a rough prediction of the first-semester average in both the technical programs and the non-technical programs, as well as an estimation of the student's chances of achieving a C average in either program.[4]

Presented with this profile, which was formulated for each student in advance of the meeting, parents and students alike were able to see just how realistic was their choice of either of the two programs. Individual discussion and explanation was provided by the staff members.

Through a pre-meeting and post-meeting questionnaire, it was possible to determine what effect the meeting had on the parent's estimate of his son's or daughter's ability, on his prediction of his offspring's academic success, and on his feeling about the student's choice of major.

Analysis of the questionnaires indicated that as a result of the meeting, there was a general tendency for parents to shift downward in rating their offspring's ability, to be more conservative in estimates of first-term average, and to be somewhat doubtful about how realistic had been the choice of major.

It is interesting to note also that between the time of the parents meeting and the subsequent programming of the students involved, 25 percent of the students decided to change their major. The general purposes of this facet of the parents program are as follows:

1. To reveal to parents something of Hofstra's general character and broad educational goals.

2. By taking a realistic look at the student's academic potential, to help develop greater understanding on the part of each parent of what may be expected of his offspring.

3. To help the student make a sounder choice of major, and incidentally to reduce the number of changes of major that ordinarily occur later.

4. To discourage unrealistic vocational goals.

5. To prepare the student for his future programming and registration appointment.

An evaluative questionnaire offered some encouraging data. The parents who attended seemed readily to understand the purpose of the meeting, and it is significant to note that both parents were represented in well over half the cases. In almost every instance, parents felt that the meetings were helpful and that most profitable was their exposure to the estimate of academic potential. Very few negative or neutral comments were made; parents almost unanimously felt the experience to be worthwhile; and

[4] For details of a similar formula, see the article by H. L. Henderson and S. H. Masten of Hofstra College, "Six Predictors of College Achievement," *Journal of Genetic Psychology,* March 1959, pp. 143–46.

there was general agreement that the program should be continued in future years.

The second facet of the approach to parents—the series of small-group discussions—has been conducted now for three years. Like the program described above, it was organized and conducted by the dean of students office and enlisted the help of specially qualified faculty.

Its framework was simple. Parents of freshmen were invited to participate in group discussions centering around such topics as: "The Role of the Parent," "Purposes of College," "Human Relations," "The Problems of College Freshmen," "The Nature and Aims of Liberal Education," and several others. The meetings were scheduled on Sunday evenings for the most part, although Friday evenings were also tried. Each group met for six successive Sundays for a two-hour period, included both parents as a rule, and numbered from twelve to fourteen members.

Employing trained discussion leaders from the administration and faculty, a group-centered approach was used which included such procedures as round-table discussion, buzz groups, "brainstorming," and role-playing. The leader tried to create a climate of permissiveness, warmth, and freedom of expression. He rarely acted as information giver, advice giver, or authority figure. He tended to accept and reflect the feelings expressed and to act in general as a friendly, nonevaluative leader in the group process.

As a probable result of this kind of leadership, there was a notably rapid growth of cohesiveness within each group, a great deal of sharing of experiences, considerable concern shown for the problems of others, and quick recognition of the fact that many problems were almost identical.

Considerable leeway was given by the leader in the choice of topics, but, under the general headings listed above, such specific problems were discussed as setting of limits on student conduct, the struggle for personal independence on the part of the student, study habits, the place and value of extracurricular activities, vocational choice, parent-child frictions, and the liberal arts in higher education.

Evaluative responses from the parents showed that what they liked best were the opportunity to discuss one's problems freely with the group, the friendly role of the discussion leader, the frankness of the discussions, the discovery of the similarity of one's own problems to those of others, the pleasure of meeting other people with common interests, and the informality of the group.

In general the purposes of this aspect of the parents program were as follows:

1. To help parents get a truer notion of the goals of higher education: (*a*) Including the importance of basic, general, or liberal education; (*b*) Including some perspective on vocational goals and motivation.

2. To help them understand the point of view and problems of the college.

3. By giving them some insight into the adjustment problems of their sons and daughters, to enlist their aid in the total educational effort.

4. To give them a feeling of identity with the college and an interest in its welfare and development.

Both aspects of the parents program at Hofstra seem to have met with some success and most certainly with a favorable response from the parents involved. Although much of the evaluation is of necessity subjective, the positive impressions gathered are strong and impelling enough to indicate continuation and further development of the college's efforts to enlist parents' aid in the educational effort.

Call for a Booster Shot

LOUIS T. BENEZET

IT SHOULD not be hard to agree on the prescription for the American campus so far as international awareness is concerned. The speed with which America has moved into interdependence with other nations has been too fast for the academic eye. Some ask whether the American college can fulfill its international obligations at the same time it fulfills its national obligations—as if these two could any longer be separated. Such questions reflect still the image of a self-sufficient country of boundless inner resources—still the frontier nation in the spirit of Frederick Jackson Turner.

Yet we are progressively a have-not nation and we must import a full third of the strategic materials needed to make us run. So far are we from reliance on the internal economy that in the current year the only bright spot in the U.S. business scene is our export trade. The world impact on national politics scarcely needs outlining; whenever a major candidate is pressed for audience response, he can always get it by running against Khrushchev. The sports pages have become progressively internationalized. As for our cultural life, witness the craze of Japanese and Italian influence. We have fallen so in love with the culture of the Japanese in the fifteen short years after they were being referred to as "monkey men" that our plays and movies now depict American-Oriental love affairs with impunity, some fifty years after Mr. Puccini went it alone.

Why then should we be still so concerned about balancing so-called national and international education? There is going to be only one kind of education in the future that will suffice. That is an education which prepares people to live in a world community. We might as well begin making the marriage now.

Yet observation of the American college scene shows that actually we have not gone very far along the road toward that marriage. On most American campuses, when the college is asked what it is doing about international education, it hesitates and then points to the foreign student program. Or it may speak about growing interest in the Junior Year Abroad. That program has indeed grown recently; but foreign study still attracts only some fifteen thousand American students annually, or about 0.4 percent of our combined student enrollments.

The import side of the foreign student program, thanks in great measure to the Institute of International Education abetted by the U.S. Government and numerous private agencies, is making fair headway. The number this year approaches fifty thousand foreign students. This, then, amounts to about 1.3 percent of our student bodies, or one foreigner for every seventy-six Americans. Actually the contacts are considerably more diluted. Nearly 40 percent of these foreign students are registered in just twenty-seven of three thousand institutions where foreign students come to study. Those twenty-seven institutions each have more than three hundred, rising to a maximum of nearly two thousand at the University of California. Administrative requirements in large universities often group these students together in international houses, so that their hour-by-hour contact with American students is all the more limited. At the other end of the scale are hundreds of small colleges with from one to five foreign stu-

dents each, expecting to make "world impact" upon a campus of perhaps twelve hundred Americans. The result is a routine of limited exposure. There is a college assembly in which the foreign students bravely but tactfully give their impressions of America, emphasizing the amusing differences in dating practice and their appreciation of the "friendliness" here. The local service club has them down for a luncheon meeting, and the venerable members applaud in their wonder that these young people actually seem human and talk our language. Only in corners of the residence halls or in small upper-class seminars is there a beginning of the kind of impact we need. Some fraternities and sororities have generously extended social privileges, housing, and even membership to visiting students from other lands; but this, in the main, is confined to those of obviously Caucasian and preferably Nordic stock.

The attempts by leading Africans, such as Tom Mboya, to stimulate increased American scholarships for their young people may have dynamic effect. Twenty-four top colleges and universities have joined a program to bring as many as two hundred African students here each year. Until now the black African student has been such an exotic on the American campus that he has succeeded only in the most cosmopolitan places. Small wonder is this when the American Negro himself is still an oddity in most of our white colleges. When he occurs there and if he is ambitious and attractive, he is sometimes lionized and given prominent positions in student affairs, as if faculty and students might expiate their social conscience through him. But he is still far from feeling at home, much less occurring in number in all but a tiny proportion of our institutions.

If the foreign student program is still small, the colleges must turn meanwhile to the program of instruction to increase international awareness. Here again, as we look at it in the mass, we have barely begun to broaden our offerings. Of five thousand languages in the world, American colleges quite understandably have been teaching less than a dozen, and in many cases only three. Courses in the history, economics, and cultural life of countries other than European and the Eastern Mediterranean are rare. Latin-American studies are few; courses on Asia are rarer yet. A few years ago in an Eastern college, I was told by a book salesman that our very modest semester course for fifteen or so students in the history of the Far East was his best market in any college or university. On most American campuses we have practically no one equipped to teach the history of the Far East, much less the history or economics or culture of the Near East, and still less anything to do with Africa. On two fairly sophisticated college campuses I have discussed with the dean the difficulty of persuading someone on the staff to take on Latin-American history: once again a combination of tepid interest, further cooled by the lack of preparation. It is nice to hear that President Eisenhower paid Panamanians the compliment of flying their flag in their own land; but this is not a substitute for the years we have lost when we should have been studying Latin Americans as people and cultures rather than as vaguely discerned primitive areas producing coffee and bananas for United States breakfast tables. On the whole, our magnificent preoccupation with the Western tradition has approached cultural solipsism. Now we need the friends it has lost us.

To summate the effects both of the foreign student exchange and the teaching of foreign cultures in the American college, there is little evidence that the so-called world impact has yet amounted to more than a gentle nudge. It seems

essential that we look at the reality of this and not impress ourselves with word-pictures. After we look at the reality, we might discuss what needs to be done.

If foreign students are to make an impact on American students and, not at all incidentally, to make an impact back in their own countries afterward, perhaps 10 percent of our campus population ought to be foreign students. In terms of enrollments to be expected in the near future, this would amount to some four hundred thousand students annually from overseas, or about eight times more than the present number. At an average cost of $2,500 a student, this equals $1 billion. Forget for the moment that colleges, churches, and foundations are now putting up most of the money for the fifty thousand foreign students in this country, and project a round figure of $1 billion into the federal budget as part of its national policy. The costs would be staggering. It would be almost as much as a single appropriation for the federal highway program, or as much as a week of expenditures for national defense. It would be nearly a tenth as high as our annual liquor bill. Prohibitive figures surely!

Yet might any of us dare suggest to Congress that *if* the national defense budget of $48 billion might just possibly be made to squeak through on $47 billion, perhaps by cutting down, for instance, the program of military surplus, we might find that $1 billion for foreign students in this country. I assume in this that the travel of American students to foreign lands should be comparably advanced. If our prosperous families could not afford this themselves, we might expect a certain *quid pro quo* from abroad in response to our own stepped-up foreign student appropriations.

Talk about numbers like these and we can begin to project a world impact through the student exchange program. Until then it will remain a token.

Concerning the second phase—instruction in foreign cultures in the colleges—faculty shortages have us in a bind. It is impracticable to expand with rapidity courses on the Orient, the Oceanic peoples, Africa, or even Latin America until we can prepare more professors for these areas. We do not even have professors to prepare the professors. If we were to wait for the normal ripening period of the academic harvest, it would take nearly a decade: first to staff our graduate schools, then to bring in graduate students under the graduate teachers, to prepare them to go out and teach the undergraduates. Such a lumbering process is unreal in the face of the urgency.

The alternative is for professors presently in other specialties to enlarge their own education by tackling as yet unstudied areas of world culture. This is a thing most professors like least to do. To take on a new specialty in professional mid-life is hard enough; to admit by doing so that one's own specialty is not sufficient wisdom for any man or any student is worse. Speaking of the academician's reluctance so to expose himself, Whitehead said:

> For scholars the reasonable topics in the world are penned in isolated regions, *this* subject-matter or *that* subject-matter. Your thorough-going scholar resents the airy speculation which connects his own patch of knowledge with that of his neighbour. He finds his fundamental concepts interpreted, twisted, modified. He has ceased to be king of his own castle, by reason of speculations of uncomfortable generality, violating the very grammar of his thoughts.[1]

Yet we all know a typical act of the best teachers we have on campus is to take on a new subject with their students, with a happy admission that they are newcomers to the field and must study it with them. At the annual meeting of the American Council on Education

[1] Alfred North Whitehead, *Adventures of Ideas* (New York: Macmillan Co., 1933).

in 1959, President Lee A. DuBridge sketched the ideal situation:

> When professor and student are both aware of the extent of their common ignorance, each will more deeply enjoy exploring together those tiny areas of knowledge that others before them have opened up and with which the professor is slightly more familiar than the student. As they explore together, the older guiding and encouraging the younger, they will be continually coming to the boundaries where knowledge stops and ignorance begins.[2]

As Mr. DuBridge himself said, "I can dream, can't I?" We *can* all dream; as administrators we must do more than dream. If we are to enlarge curricula to reflect what is going on in the rest of the world, we must use whatever leadership we have to persuade faculties to take it on. This will require more tact and genius than most of us have. When a professor turns from one specialty to a new one, he risks face with his colleagues only less severely than the pariah who admits an interest in the so-called general studies. I wonder whether we shall make progress in opening professorial study to other world cultures so long as the following noted professor's statement is typical: "I, for one, hope . . . that specialization will return to the colleges with renewed vigor and from there work its way to the high schools."

[2] DuBridge, "Companions in Zealous Learning," *Educational Record*, January 1960, pp. 12–13.

To do Professor Edmund S. Morgan of Yale credit, we need specialization, yes. But we need it also in studies of peoples too long ignored in our college curriculum. And we need a breadth of outlook not now typical of university scholarship. We have no immediate course but to ask present specialists to retool themselves.

They will not do it without help. It will require leaves or reduced loads for outside study, summer institute work, and foreign travel. We might hope some educational agency such as the American Council on Education could wrap up a big enough program to present at the national level for the college need: a program which might engage the cooperative efforts of major foundations backed and matched by the Federal Government. A start has been made in title VI of the NDEA. The foundations have been of great aid in supporting international studies. It is probably not their fault that most of these project grants continue to go to a very small percentage of colleges and universities. It will take a much broader program to do this job.

If higher education is to contribute to world responsibilities, let alone survival, it must be more realistic than it has been about the need for world impact on its campuses. If we are to have impact, we need more people in a position, either by national origin or by training, to make that impact. To get more people, we ought to start looking now.

Sponsored Research and Higher Education

WILLIAM B. HARRELL

One of my former associates used to say: "The one thing a college or university must have is money." He was an economist and may therefore have had a greater appreciation than most of his fellow faculty members of the need for adequate financial resources to maintain a strong educational institution. I emphasize, however, that he also understood the importance of, and insisted upon, excellence on the part of the teacher, student, and research worker.

My friend made his observation in the 1930's. If he were living today, he would undoubtedly revise his statement to read: "What colleges and universities must have is more and more money." Certainly he would if he were concerned with financing basic research in the natural sciences. Once upon a time basic research scientists were individualists; generally they worked alone with a few students and with reasonably simple equipment. They conducted their experiments without the aid of engineers, often without the assistance of technicians.

The research worker who gained his first experience during World War II learned to work as a member of a team. If he was a physicist, he was associated with mathematicians, with chemists, with engineers, and often with biologists. He had the assistance of electronic technicians, machinists, and men and women with other special skills. Elaborate equipment was available to him.

The time scale for the completion of an experiment may have been greatly reduced by the team approach. The research worker usually did not, however, learn to construct his own apparatus. In fact, he frequently failed to develop the skill to manipulate it.

Many scientists continue to work alone, but the team approach to research in the natural sciences appears to be growing and at a rapid rate. Some critics argue that something valuable has been lost; that only individuals have ideas and that the quality of research has deteriorated. Others argue that the interdisciplinary approach has become a necessity. I shall leave the appraisal of the conflicting points of view to those more competent to judge. My purpose is to emphasize that basic research in colleges and universities has become much more expensive.

May I offer three examples to illustrate the change.

1. It was toward the end of his long and distinguished career that A. A. Michelson announced in the late 1920's that he proposed to repeat with refinements the celebrated Michelson-Morley experiment. He estimated that the cost would be of the order of $30,000 to $40,000. You may remember that the original experiment, performed in 1887, demonstrated that the earth's motion did not influence the velocity of light and provided the starting point for Einstein's theory of relativity. Because other investigators questioned the results and later because its importance to the theory of relativity had been recognized, the 1887 experiment was repeated many times by others. A conservative estimate is that the cost of repeating the experiment forty years later was ten to fifteen times the cost of the original experiment.

The funds requested by Professor Michelson to repeat the experiment were, of course, provided. Because of

his great prestige, it never occurred to us that the request should be denied. The experiment was financed in part from a private donation. Federal grants were not available in those days. The total cost was well in excess of the $40,000 estimate. We not only did not charge the salary of Professor Michelson to the experiment; we also neglected to count as a cost the assistance he obtained in the design and construction of his instruments by an unusually skilled machinist who was then and until very recently in charge of our machine shops, and an equally skilled man who ground and polished the mirrors. In retrospect it is somewhat amusing to recall our concern at that time about the growing cost of research.

2. For our second example let us turn to biology. The following quotation is taken from an article by Professor Bentley Glass of Johns Hopkins which appeared in the September 2, 1960, issue of *Science* entitled, "The Academic Scientists, 1940–1960."

> In 1940, according to Professor Glass, an assistant professor of biology, a fairly typical scientist had no special funds for his research. An amount not exceeding $100 annually came from the departmental budget and was used for consumable supplies. He had for his use one moderately good compound microscope and one good binocular dissecting microscope. He made all his own media, did his own sterilizing in a pressure cooker, kept his own stocks without assistance, and was grateful for some help in washing up the glassware. Without even a chest to run at a controlled temperature, he worked during the hot summer weeks in a dusty, normally unused, but cool basement room. Still the research went on, in spite of the fact that perhaps 80 percent of the scientist's time was spent in routine chores. In 1960 the professor has charge of two research laboratories, both supported by funds from the federal government. A senior research associate operates one of these laboratories semi-independently, with a research assistant to aid him. Two research assistants work in the other laboratory. In addition, there are two part-time laboratory assistants to wash bottles, keep animals, and prepare media. The annual research budget of the group is close to $50,000, not including the scientist's university salary, and none of this sum comes from the regular department budget. There is no lack of equipment. There are compound microscopes of the best quality; binocular dissecting microscopes for each worker; phase microscopes; photomicrographic equipment; an X-ray machine; a cold room; constant-temperature incubators, refrigerators, and deep-freeze; air-conditioning for the laboratories; special supplies of chemicals; special rooms and equipment for preparing and sterilizing media and washing glassware; animal quarters—in short, everything that is really needed for an experimental program of some size.
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> One might be moved to say, "But this is exceptional. It reflects seniority as well as the change of times." On the contrary, junior members in the same department are about equally well established. The changed situation is perhaps best reflected in the departmental budget, which at the end of World War II was about $70,000 per annum and today is close to $1 million, while the staff has perhaps doubled.

I agree with Professor Glass that the dramatic change in the approach to basic research which he describes is typical of our larger universities. In our liberal arts colleges, where research is quite secondary to teaching, sponsored research has had comparatively little impact. Heavy teaching loads in colleges often prevent college faculty scientists from taking advantage of the opportunity. The cleavage is thus deepening between colleges which are primarily teaching institutions and universities where teaching, at least in the graduate divisions, has become secondary to research. Certainly, it is not in the national interest for colleges or for universities in their undergraduate divisions to permit research to grow at the expense of teaching. To emphasize this point we

should remind ourselves that as recently as 1900 only 4 percent of the eligible age group (eighteen to twenty-one years) in this country went to college. By 1950 the percentage had increased to 27.2, and it is estimated that for the current autumn 37.1 percent of the eligible age group has entered colleges. We must not permit the growth of sponsored research in our educational institutions to cause us to neglect our responsibility for training the scientists of the future.

3. In referring to my third and final illustration, may I note that the particle accelerator is undoubtedly the most expensive basic research tool developed to date—costly to build, expensive to operate. Although in 1911 Lord Rutherford had published his concept of the atom as a structure built around the nucleus, the rapid increase in the cost of research in this field probably began with the discovery of the neutron by Chadwick in 1932. Shortly thereafter, in 1934, Fermi and his collaborators demonstrated that nearly every element in the periodic table may undergo a nuclear transformation when bombarded by neutrons. Four years later Hahn and F. Strassmann and other investigators, including Otto Frisch and Lise Meitner, confirmed by experiment that the uranium nucleus could be split. The process is now called fission.

After the invention in the 1920's of such particle accelerators as the Cockcroft-Walton generator and the van de Graaff accelerator, came the first cyclotron, constructed at Berkeley in the early 1930's by Lawrence and Livingston. Later the linear accelerator and the synchrocyclotron were developed. The great development in particle accelerators has, of course, occurred since World War II.

Shortly after the last war, we at the University of Chicago undertook the construction of a 170-inch synchrocyclotron, with financial assistance from the Office of Naval Research and the Atomic Energy Commission. It was, in fact, a copy with some modifications of one of the Berkeley machines. The total cost, including a building designed to house it, was just under $5 million. When it was completed in 1950, this accelerator was in the forefront of machines designed for nuclear research. Although it is no longer in the forefront, it is still a useful research tool. Incidentally, the total current operating budget for its use is in excess of $1 million per year.

We are now building a particle accelerator for the Atomic Energy Commission at Argonne National Laboratory. When completed in 1962, the accelerator will cost at least $50 million, including the necessary buildings and utilities. It is anticipated that the annual operating budget will be in excess of $12 million.

The Argonne machine will be only one of several large accelerators in this country and abroad. In fact, some already in existence or in the process of construction will be much larger if measured in terms of billions of electron volts. Already, accelerators estimated to cost $300 million to $500 million are being discussed.

The Argonne machine will be made generally available to high-energy physicists. A users group made up of scientists from colleges and universities in the Midwest are holding meetings to develop plans for the use of the machine. Such research tools have become so costly that limiting their use to a small group of scientists can no longer be justified.

The trend toward cooperative and interdisciplinary scientific research is evidenced by the establishment of large research centers away from university campuses. Important examples are Brookhaven, Argonne, Los Alamos, and Oak Ridge. These laboratories are financed by the Federal Government through the Atomic Energy Commission. In two cases they are operated for the Commission by universities; one is operated by an industrial company and one by a group of universities. Three of

these laboratories were established during World War II and the fourth—Brookhaven—following the war. Brookhaven was the first major laboratory in this country to be established and operated cooperatively by a group of universities. More recently, two astronomical observatories have been established through the cooperative effort of universities with government support from the National Science Foundation. The Foundation is also supporting a joint university effort to establish a national laboratory for atmospheric research. The Midwestern Universities Research Association represents a similar effort for research in high-energy physics. I have only recently learned about a comparatively new organization, known as the Association of Rocky Mountain Universities, which proposes to devote its efforts to materials research. Princeton and the University of Pennsylvania are building a particle accelerator with support from the Atomic Energy Commission. The Commission is also financing a particle accelerator which is now being built jointly by Harvard and the Massachusetts Institute of Technology.

All of these enterprises represent a trend toward removing large-scale research from the immediate environment of the university. The way in which they are functioning or are expected to function differs in degree, but not in principle. They are, in most cases, interdisciplinary research undertakings; require competent and large research staffs; and represent a transfer of research from the traditional academic department. They involve large capital expenditures and substantial operating budgets. They are all financed in very large part, and in most cases entirely, by the Federal Government. Some are devoted wholly to basic research. In other cases, the scope of their activities includes major effort in applied research and engineering development.

In addition, there has been a great expansion in industrial laboratories. The industrial laboratories are dependent at least in part on government support. Before World War II, many of the men working in these laboratories would have been working in universities. They would not only have been carrying on research, basic and applied, but would have been training scientists for the future.

It may be too early to appraise the impact of this new development in the organization of science, but it does appear to be safe to say that it has had and will continue to have a major financial impact on colleges and universities. The expanded demand for scientists has stimulated greatly an increase in salaries and therefore operating costs, both within and without academic institutions.

We can already see the beginning of an effort to learn how to use these large off-campus research laboratories for training scientists. One of the most interesting and hopefully significant attempts with which I am familiar is represented by an experiment organized by a group of ten liberal arts colleges in collaboration with Argonne. The organization is known as Associated Colleges of the Midwest. Under the plan, three members of the faculties of the collaborating institutions are selected by the cooperating group for residence at Argonne. At present the general fields of science represented by the three faculty members are physics, chemistry, and biology. The cooperating group of colleges also selects ten upper-class students who spend one semester at Argonne—a total of twenty students per year. Full academic credit is granted by the student's home institution if he performs satisfactory work. The members of the faculty will also rotate. If the experiment is successful, and we believe that it will be, there is no reason why the program cannot be expanded within reasonable limits not only at Argonne, but at other large labora-

tories. The responsibility for granting degrees will remain where it should be—in the colleges. The resident faculty members will have an opportunity to engage in research as well as directing the studies of the participating students. Variations in the plan at Argonne and elsewhere may reasonably be anticipated as more experience is gained. The laboratories are also being used successfully by colleges and universities for training at the graduate and postgraduate level, and the number of opportunities for such training is currently very much larger.

The National Science Foundation has estimated that the total funds available for support of basic research in the United States has reached an annual level of $1 billion in the current year. This is more than twice the sum available six years ago. The Foundation also estimates that the total current expenditures in this country for research plus development have reached an annual level of $12 billion.

An adjustment must, of course, be made for the change in price levels. On an average, the 1940 dollar purchased twice as much in goods and services as the 1960 dollar. While I do not have data to prove it, I am reasonably certain that the cost of research has increased more than general prices. Certainly, research salaries have more than doubled in the twenty-year period. This is also true for engineers and technical specialists. The cost of some items of standard equipment may be less now than in 1940, but for most items of specialized research equipment, the cost today is more than twice the cost twenty years ago. Furthermore, many of the essential research tools used in 1960 had not been developed prior to World War II. Others are more elaborate and by reason of that fact much more expensive.

The National Science Foundation estimates colleges and universities will expend about $500 million for on-campus basic research during the current fiscal year. A large part of this sum will be provided under federal contracts and grants. This very large increase in government-sponsored research, as compared with the amount expended ten years ago, raises a number of questions for colleges and universities, including:

1. Are colleges and universities bargaining away, little by little, their independence in accepting funds for research from the Federal Government? The answer is, I believe, that if we are doing so, we have only ourselves to blame. There are individuals in government, some of them formerly associated with educational institutions, who would be willing to tell us how to operate, but my experience over the past fifteen years suggests that government representatives with this point of view are definitely in the minority. I am also convinced that the overwhelming majority of government officials concerned with sponsored research are anxious to avoid interference with the internal operation of our colleges and universities. We can, if we have the courage to do so, resist interference. To do so successfully, however, we must assume the responsibility for administering the expenditure of federal funds with at least the same care we exercise in the management of our own funds.

2. Are colleges and universities now being adequately reimbursed for the costs incurred in conducting sponsored research? Clearly, we are not. We are often persuaded to accept grants and contracts which do not provide for full reimbursement of the direct costs. Rarely do we receive full reimbursement of the supporting or indirect costs of sponsored research. We have frequently made this mistake because the members of our faculties have persuaded us to accept support, even where the government was unable or unwilling to pay full costs. We

have too often neglected to point out to the members of our faculties why we can ill afford to accept government-supported research on a large scale without full-cost reimbursement. Faculty members can, as a general rule, be persuaded if we furnish them with the facts.

Norman Kaplan, an assistant professor of sociology at Cornell, in an article published in the August 12, 1960, issue of *Science* under the title "Research Overhead and the Universities," makes some interesting points in this connection. He suggests that the administrative officers of colleges and universities have not given sufficient attention to the implications for educational institutions of the great expansion of sponsored research. His position on this point is, I believe, sound. When he suggests, however, that one of the primary motives for accepting grants from the government is to obtain the funds allocated under such arrangements for indirect or supporting costs, I am convinced that he is in error. When he suggests that the volume of sponsored research in colleges and universities would be curtailed automatically, and what he considers to be a proper balance restored if the payment of indirect costs were discontinued, I am certain that he is mistaken.

The college administrator is too often reluctant to refuse a sponsored research project when it would be in the interest of his institution to do so. If the college administrator is unwilling to assume the responsibility for declining a grant or contract which does not provide for full reimbursement of the costs which he knows must be incurred to perform the work, he must be prepared to accept the consequences and should not attempt to place the blame on the member of the faculty who persuaded him to do so or on the government representative who drove a hard bargain. In saying this, I do not mean to argue that the point of view of the members of our faculties should be ignored. In any first-rate educational institution the faculty has, and should have, a powerful voice in determining policy, but the members of our faculties can and will act intelligently on financial matters if only we will exert the necessary effort to inform them of the consequences of failing to do so. Government representatives also will respect us for seeing to it that the financial integrity of our educational institutions is not impaired.

3. Are we assuming a financial risk in accepting large-scale financial support from the government for research? The answer is: Yes. Our responsibility is to determine to the best of our ability, however, whether we are assuming an *undue* risk. All sources of financial support for colleges and universities are subject to fluctuation. The prospect that the Federal Government will, in the foreseeable future, discontinue or severely curtail funds available for basic research in universities seems somewhat remote. Our concern should be, of course, to maintain a balance in our programs and above all to make certain that we do not accept obligations beyond our capacity to perform. If the quality of our performance deteriorates, we cannot reasonably expect continued support. This is not to argue that the government representative is always qualified to appraise the quality of performance. I do suggest, however, that our government representatives have access to qualified scientific advice and have a right as well as an obligation to use it.

4. Has the growth of sponsored research in universities and colleges modified our traditional way of life? Certainly the growth of science in our colleges and universities and in our society, as a whole, now frequently referred to as the "scientific revolution" has produced an apparent imbalance when compared with the relative effort expended in this area as recently as twenty years ago. Colleges

and universities have responded to the growing interest in science as they should. After all, the work of the basic scientists in our educational institutions in this country and abroad produced the "scientific revolution." Furthermore, if J. Robert Oppenheimer is correct, and I believe he is, in suggesting that new scientific knowledge is not only "useful," but also that the act of gaining it is "ennobling," it would seem to me to be within the best college and university tradition to continue to promote science.

My general conclusion is that it would *not* be in the national interest for colleges and universities to expend less effort on teaching and on basic research in the natural sciences, and that we may well have an obligation to increase our effort in this area. I *also* believe that college and university administrators have an obligation to be much more insistent in the future than we have in the past on full reimbursement of the costs of sponsored research, whether the funds are provided from public or private sources.

RESEARCH has dramatically changed the disease pattern of human life, and transformed the age structure of the population by increasing the life span. By doing this, research has posed new problems and accentuated some of the old ones. An important question now is how to prolong man's usefulness and increase his comfort during the added years research has won for him. The prevention of chronic disease is the first step in achieving this goal. Caries and periodontitis are the commonest chronic diseases. They impair man's usefulness, not only in advanced years but throughout life, add to his miseries, and contribute to the development of systemic disease.

The economy likewise suffers through lost time or impaired efficiency because of toothaches, oral infections, and dental deformities. It is hardly necessary to mention the burden on the individual of the rising costs of dental treatment. The likelihood that sufficient personnel cannot be educated during the next few decades to treat the dental diseases of the growing population according to present methods has already been discussed.

These are factors that support a plea for immediate concentration on improving dental research. Palliative measures may diminish the problem, but advancement in dental research is basic to advancement in dental education, dental practice, and public health. The development of effective and widely applied preventive measures is the indispensable approach to ensuring the dental health of the nation.—"Dental Research," in *The Survey of Dentistry, The Final Report of the Commission on the Survey of Dentistry*, published by the American Council on Education, March 1961.

The Influence of Environment on Urban Institutions

JULIAN H. LEVI

THE Eighty-sixth Congress, in section 112 of the Housing Act of 1959, determined the necessity of "a cohesive neighborhood environment compatible with the functions and needs" of institutions of higher education. In the decade prior to this action, more than thirty institutions of higher education had become involved in urban renewal projects affecting their surrounding communities. Other universities, such as Columbia University through Morningside Heights, Inc., the University of Pennsylvania through the West Philadelphia Association, and the University of Chicago through the South East Chicago Commission, were assuming major responsibilities in the business of city rebuilding.

These developments inevitably lead to the questions of why, how, and what?

1. Why should universities be concerned about their physical environments and, particularly, about conditions in their surrounding communities?

2. How can a university do anything about off-campus conditions?

3. What can an institution do to secure an adequate campus area?

4. How can the Federal Urban Renewal Program be used most effectively?

WHY should universities be concerned about their physical environments and, particularly, about conditions in their surrounding communities?

Universities and colleges are not civic betterment associations. Their missions —teaching, training, research, and the extension of man's knowledge about himself and his universe—should not be diverted into operations in city planning and redevelopment unless these diversions are essential to the fulfillment of the primary missions. It is, however, a tragic fact that these efforts are today essential to the ability of the institutions to fulfill their primary responsibilities.

Over the years we have had occasion to compare the calendars of academic events at various institutions. At many of them, the academic day begins before eight o'clock in the morning and continues into the late evening with seminars, meetings, and colloquies. Lights burn in libraries and laboratories throughout much of the night. In fact, certain installations, particularly in the nuclear fields and in the teaching hospitals, are in operation at all times. At other institutions the day ends toward late afternoon.

Why the difference and what the consequence? The difference is simple—in the latter institutions the faculties are commuting faculties and, as commuters, they have retreated to suburbia by late afternoon. The consequence is obvious —the loss of perhaps 30 to 40 percent of the effective time of faculty and facilities in an era when, in the national interest, these losses can least be accepted.

More important, the loss is qualitative rather than merely quantitative. A university must be a community of scholars, not a collection of scholarly commuters. The cross-fertilization of many disciplines and fields, so essential to productive research and teaching, is possible only when a university community exists as a place of residence.

The challenge bites far deeper than the mere requirements of physical safety. The university community, to be truly

effective, must be able to attract and hold families, both town and gown, whose standards center about an academic, collegiate education for their children and who, accordingly, require that the educational facilities within the community, both in public and private schools, equip the high school graduate for the competitive rigors of that academic, collegiate education.

In fact of time and space, universities and colleges within our urban centers will all find this challenge. The life spans of these institutions cut across the cycles of city growth and change. As urban demography has exploded and altered, these institutions must, nevertheless, remain precisely where they are. Their work often requires the facilities and materials available only in urban centers. Moreover, the market for second-hand universities is nonexistent. These institutions, so rooted, include the proudest names on the American educational scene. The Congress and the President thus determined that their need for a cohesive, proper neighborhood environment was in the essential public interest.

INEVITABLY, we turn to the "how?" Granted that universities should be concerned about conditions in their surrounding communities, is there anything they can do about them and, if so, what?

Finley Peter Dunne is a good place to start:

> "Oh, well," said Mr. Hennessy, "we are as th' Lord made us." "No," said Mr. Dooley, "lave us be fair. Lave us take some iv th' blame oursilves."

Colleges and universities which have never had an adequate program for the housing of students and who, in effect, turn to the surrounding community and ask that it operate rooming houses to accommodate these students, cannot, with good grace, then complain of deterioration caused by rooming-house use. Colleges and universities which fail to face up to the problems of off-street parking cannot, in good conscience, complain about traffic congestion. Institutions which fail to plan growth and objectives on an orderly scale should not complain about consequent confusion of mixed land uses. Institutions which fail to assume their responsibilities as responsible corporate citizens or which fail in adequate explanation of the contribution and role of higher education on the American scene ought not then complain about a lack of public understanding and sympathy.

What, then, is the recipe?

1. The institutions must put their own houses in order to the end that their activities do not contribute to community decline, and that adequate provision be made by them for student housing, for campus planning, and for campus security.

2. The role of the responsible corporate citizen has to be assumed by the institution. This means far more than complaining about conditions from the ivory tower, and, moreover, significant success stories over the country show that the responsible head of the institution must participate directly. If a university undertakes to speak to the municipal authorities of its community through a functionary in the buildings and grounds department, those to whom these remarks are addressed will judge them by the position of the messenger on the organization chart.

3. The university or college is only one element in the surrounding community, albeit the most stable and often the most powerful element. Successes over the country underline the necessity of a partnership between the university and the people of the community.

4. Clean hands and a pure heart are not enough. Universities must bring a competent, professional viewpoint to the

solution of their problems. Requests and suggestions to the municipal authorities must not be ill-informed as to fact or relevant law.

5. In these problems, as in many others, the solutions lie within the public arena. If the problem is one of slum clearance, or of zoning enforcement, or of better policing, there will be times when the institution concerned will have to assume the full joys and responsibilities of discussion in the public eye. There will be unfair, unjust, and inaccurate criticism and attack. This is part of the price of the achievement.

Added should be the fact that the task of improvement of surrounding conditions is by no means insurmountable. In the situation with which I am most familiar, within an eight-year period crime was reduced by more than 50 percent, and new capital investments of public and private funds of more than $175 million were committed to the area.

All of this still leaves the problem of securing an adequate campus area. The problem is compounded because in most instances universities and colleges are compelled to buy in built-up areas. Attempts at private acquisition through negotiation often fail except at exorbitant costs and, even then, some campus plans bear the scars of unreasonable holdouts. Unfortunately, the ideal solution is not available. No one has yet invented the skyhook or space station upon which a new dormitory or physics laboratory could be suspended.

While public institutions are aided by the right of eminent domain, studies with which I am familiar show that even these efforts are hampered because of the necessity of buying built-up land where the improvement, which must be paid for, brings only the liability of a wrecking cost.

1. In part, the solution of this problem must begin with public education. When a university needs additional land for campus expansion, its efforts can be interpreted either as a land grab or as thoughtful and necessary provision for the education of the next generation of the leadership of our civilization. Despite all efforts to date, most people really do not understand the dire position in which institutions find themselves or the fearful forfeit of our failure.

"The Closing College Door" may well close because there was not the land upon which the building, which contained the door, could be built. Only a broad national program of public education and information will meet the requirement. Programs undertaken at the last moment and on the eve of the announcement of an expansion program can never suffice.

2. If the ability of higher education to meet its responsibilities is a charge effected by a public interest, then these institutions, both public and private, should be aided by the power of public acquisition to be exercised on the grounds of educational need and after full public hearing and with full public safeguards.

In the cases of private institutions the right of public acquisition will be best exercised through the educational district or authority. The Illinois Medical Center District Authority in Chicago is a current example of such a device. Uniform legislation providing for the creation of such districts has been prepared under the aegis of one of the committees of the Council, and it is hoped that this legislation will be adopted by state legislatures. It is important that this be done. While the urban renewal tool is useful and, under today's conditions, often the only available vehicle, the basis of an urban renewal program must begin with proof that the area under consideration is eligible for treatment because of di-

lapidation or deterioration. In consequence, questions of urgently needed educational expansion are debated not in terms of educational need but on considerations of particular existing structural conditions. If it is as important to provide proper educational facilities and environments as it is to build highways, full legislative recognition of educational need is appropriate and needed.

3. A sharing of costs formula should be developed. Section 112 is the first effort in this field.

In many cases, particularly since the enactment of section 112, the Federal Urban Renewal Plan can be effectively used to assist institutions of higher education. In order to make full use of this opportunity, however, certain clear requirements exist:

1. Universities and colleges must put their own planning houses in order. It is no longer realistic for any institution to say that it cannot plan because, at this given moment, it does not have the capital funds available for expansion. Confronted with these opportunities and challenges, it is appropriate for any institution to visualize what its campus needs and requirements ought to be ten and fifteen years, and a quarter of a century from now. Of course the plan will be changed. Our scientists will make necessary the erection of research facilities in some places which cannot even be described today but, at least, the general goals can, and should, be understood.

2. Section 112, by providing that the expenditures which institutions of higher education will make for campus expansion in the purchase of existing land and buildings, as well as demolition and relocation expenses, will be treated as local grants in aid for the benefit of the local municipality, offers significant opportunities:

a) The institutions concerned can say to donors that gifts to assist the institutions will be given leverage by federal funds available to the local municipality.

b) The institutions concerned can say to their local municipalities that they themselves are helping these municipalities in the business of city rebuilding and redevelopment.

The Eighty-sixth Congress and the President, in their enactment and approval of section 112, understood precisely what they were doing. It was their purpose to provide an opportunity and an assist to institutions of higher education. It is the responsibility of the institutions concerned to develop that opportunity in the national interest.

In one sense what has been said here could be put in terms of challenges and opportunities—challenges of expansion and growth, and opportunities at solution through teamwork between institutions and their communities.

The truth of the matter would be incomplete at that point. Some years ago the president of an eminent Eastern university, shortly after his inauguration, called a meeting of the faculty of his institution and sought to explain to them that the university had their interests at heart. One of the senior faculty members got to his feet and remarked: "Sir, you misunderstand. We are the university."

All too often universities and colleges speak in institutionalese. With all humility, I submit they miss the point. The institutions exist because prior generations of our countrymen deemed a future, now our present, to be of overwhelming concern and importance. They thought of that future not in buildings nor in land but in the development of the intellectual capacities and skills of young men and women.

The acquisition of land by a university for the erection of a dormitory or a laboratory is more than a real estate transaction in which the seller executes a deed and the buyer pays a consideration. The transaction has significance beyond the passage of title to an institution of higher education. More significant is the fact that any dormitory to be erected on any campus of any American college over the next half-century may be essential to the education and training of a future American president, of political leaders for many countries throughout the world, of doctors, lawyers, theologians, teachers, humanists, and the informed citizenry essential to a free society.

In this sense, one is reminded of the statement of Disraeli: "Individualities may form communities, but it is institutions alone that can create a nation."

The Federal Urban Renewal Program.—The Housing Act of 1959 established new procedures whereby land-locked urban universities may obtain help in combating the encroachment of slums and blight in university neighborhoods. Normally, a local urban renewal program is carried out by a local public agency which is either a department of the municipal government or an independent local authority. An institution of higher learning which desires to take advantage of the provisions of the Housing Act of 1959 should consult its city administration or other local governing body about the existence of an urban renewal program and the proper local official with whom to deal.

The American Council on Education appointed a special committee on urban renewal. Subcommittees were asked to draft suggestions for amendments to the basic federal legislation on the subject and to draft a model act for adoption by the various state legislatures to permit the creation of public bodies eligible to act as planning agencies under existing federal law.

The March 7, 1960, issue of the Council's bulletin *Higher Education and National Affairs* published in full federal regulations to govern urban renewal projects involving colleges or universities under Section 112 of Title I of the Housing Act of 1949, as amended.

State Aid for College Buildings.—Although many state constitutions forbid the legislature to appropriate public funds or to make the credit of the state available to nonpublic educational institutions, this is not true in all jurisdictions. Along the Atlantic seaboard, there has been a long-established pattern of the use of public funds in aid to so-called "private" institutions of higher education. In 1951 the Legislature of Maryland authorized the use of the credit of the state to provide funds for the construction of a new building for the School of Engineering at Johns Hopkins University, and again in 1954, for a gymnasium and field house at Washington College and a men's dormitory at Western Maryland College.

The New York Dormitory Authority Act of 1944 created a public benefit corporation, authorized to "maintain, construct and operate dormitories and appurtenant facilities at state colleges and universities." In 1957 the authority was given the power "to finance, plan, construct and operate dormitories and attendant facilities at private colleges in the state."—"College Property and Related Problems," in *College Law*, by Thomas Edward Blackwell, to be published spring 1961 by the American Council on Education.

Do New Teachers Merit Administrative Diplomacy?

HAROLD L. RAY

ARTICLES on teacher recruitment, supply and demand, and salaries permeate today's professional literature highlighting the troublesome "teacher shortage." Many writers emphasize a need for the teaching profession to find creative ways of combating this problem.[1] The logical leaders in this battle are education's administrators—principals, superintendents, department heads, and presidents—and the attracting of qualified, talented teachers should be one of their prime public relations roles.

Yet an alarming number of graduates investigating professional opportunities report discouragement due to a lack of courteous consideration from these very executives. Inquiries related to staff vacancies by interested teachers frequently are answered only after unnecessary delay or not at all, especially on the secondary school level. And after initial contact is made—by means of interview or correspondence—both high school and college administrators have been known to delay making an appointment until it is too late for the unsuccessful applicants to compete actively in the academic market. The writer recognizes that candidates themselves are sometimes guilty of belated or poorly prepared correspondence; however, since these are common complaints among both experienced and new teachers, the subject appears to be worthy of discussion.

It would seem to be consistent with today's general staffing needs that any potential source of talented teachers must be explored—whether by personal contacts, conventions, placement bureaus, or letters of inquiry. Indeed, of the dozens of letters crossing a desk at the supervisory level, those of inquiry or application by teachers are of major import, for the manner in which they are handled can be a factor in encouraging young men and women, stimulating professional pride, or of deadening enthusiasm to the point of causing some persons to seek more receptive territory outside the teaching field. Furthermore, it would seem advantageous for the administrator to know of an applicant who, for one reason or another, was interested in his particular school or locale. This underscores several questions: Why, then, do many administrators completely overlook the letter of inquiry? Should not young teachers be encouraged to use personal initiative in selecting desired locales and making contacts in this manner? Should not this technique be advocated by teacher preparation departments to supplement present placement services? At any rate, applicants report the lack of response to this type of contact as being definitely discouraging.

While the following experience is not unique, it may serve as an illustration. In 1955, the writer left military service possessed of a graduate degree and the experience of having prepared instructors for four years. Although not from Ohio, the writer had a definite reason for wishing to secure a rewarding position in a respected school system in that state. From the literature of the Ohio State Department of Education, twenty high schools were selected and letters of inquiry were sent, along with a one-page brief of experience and preparation. At

[1] See Kevin P. Bunnell, "Recruiting College Faculty Members: A Short-Range View of the Problem," *Educational Record*, April 1960, pp. 138–42.

the end of two weeks, six replies of a generally negative nature had been received. After six weeks, the writer visited ten of the schools deemed most attractive. Though none of these schools had expressed interest by letter, six openings for which the writer was qualified were duly offered him. All superintendents visited were cordial but obviously surprised at the follow-up to the initial letter. Probably few applicants are able to make an extra effort of this type.

Near the conclusion of graduate studies in 1959, the writer took this approach as *one* way of seeking a college position. A discussion of this method with staff members brought forth mixed reactions. Some felt that this showed desirable professional initiative; others stated that such correspondence would likely end up in "file 13."

Forty-eight universities in all sections of the country were selected as having attractive educational plants, outstanding people, and imaginative programs, and letters of inquiry were sent to the appropriate department head or executive officer of these institutions. Thirty-six (75 percent) of the administrators replied—one within three days; others after several months.

Most of the supervisory people who answered were encouraging and gracious. Many were informally friendly, within the dictates of a business reply, so that some of the warmth of individual personalities was revealed. One wrote, with tongue in cheek, that he believed that "safety should come before sex education in the college curriculum." A second stated, in reference to a member of his staff who had been about to resign because of illness, that "since his wife died he has made a remarkable recovery." What future teachers could these gentlemen recruit by their example! What, however, of the twelve administrators who failed to reply at all? Is it possible that so many prospective employees were pounding on their doors that they had no time to write and say so?

The writer found the whole experience invaluable in revealing a picture of general employment practices in higher education. Many new graduates who have tried the same tactics, however, were not so fortunate, and they report a discouragingly high percentage of lack of response.

Are administrators protesting this paper work and saying: "Must we answer every letter of inquiry from the qualified and not qualified which crosses our desks —in spite of the time it takes?" Why not? A brief, simple reply stating the department's position on vacancies or the lack of them does not take very much time. And no time is more valuable than that spent in maintaining good relationships —or preventing antagonism, as the case may be. Many schools are beginning to use form letters. While not the happiest solution to the problem, it seems infinitely preferable to no answer at all.

For their part, applicants have a responsibility to be brief and to the point. A letter of inquiry should never exceed one page in length. The accompanying brief should be well organized and also concisely stated.

The second complaint of lack of courtesy in correspondence concerns appointments after the initial contact has been made. Applicants are kept in suspense for weeks and even months before receiving definite notification one way or the other.

One young lady, applying for a position at a Colorado college, was informed that she was an active candidate and would be notified shortly. More than three months elapsed before this notification was forthcoming. If she had not received the appointment, she would have had little opportunity to seek other desirable positions. Waiting this long is discouraging to newcomers in the field and is extremely poor public relations.

However, other high school and college applicants of the writer's acquaintance have waited longer than three months. In one instance, a new graduate learned six months later that a position for which he had not even known he was being considered had been filled. The basic argument is not that an extended period of time elapses while staff selections are made. Rather, the fault lies with an administrator who fails to keep candidates informed.

A recent practice of some California colleges has been to utilize form letters phrased in diplomatic educational jargon to the effect that "out of many outstanding candidates, Mr. Jones, you were not it." While transparent, this is at least courteous, but the fact that the letters are often sent to applicants months later negates most of the good intent. Most people would seriously question the desirability of working with supervisory personnel who indulge in such weak human relations practices.

In all fairness it must be stated that most administrators really are swamped with paper work and all too often are not provided with sufficient clerical staff or adequate equipment to handle it as effectively as they might wish. It must be observed, however, that some administrators have an apparent disdain for overzealous job hunters or are indifferent. Some do not have the ability to interview effectively enough to "sell" themselves or their schools. Others are not willing to take the time. With many supervisors sincere letters are meaningless unless followed by personal visits.

Professional courtesy is definitely a two-way, investigative street—with candidates seeking good professional positions and administrators looking for the best people available within budgetary limits. If human relations and pride in teaching are improved in any small way through correspondence, a little effort along the lines of this form of personal diplomacy might be desirable. This is not to advocate the bottle feeding of young teachers nor the development of a stereotyped literary correspondence. Still, administrators should realize that new teachers are influenced by a lack of respect, brusque behavior, professional rudeness, or generally poor practices in public relations. The proper word of counsel or encouragement from a respected supervisor may reap rewards in future years—particularly in staffing. Simple communicative skills are important in dealing with teachers of all ages and stations. An educational system is still comprised of individual people, each of whom should be a public relations man for his institution.

Any careful historical research which delves into the letters of men who contributed to our heritage reveals facets of their personalities not always realized in reading academic works. A personal letter can be a window through which flow warmth, humor, and the spirit of a man or of the institution which he represents. Sympathetic encouragement for future leaders and a recognition of the dignity of individuals cannot help but be evident in the correspondence of a responsible administrator.

On the Education of Teachers

PROCTER THOMSON

PUBLIC education is the guardian of democratic civilization and if the guardian serves us badly, as some now say it does, we have only ourselves to blame. The training of teachers is the work of all ranks and branches of the university. By far the larger portion of the things that teachers learn falls altogether outside the scope of the college of education, and the feckless illiterates who enter our gates—I exaggerate for emphasis—are but the image of those we have sent forth to prepare them.

Pedagogy—let us face the issue frankly—has only lately come to the campus from the normal school and the college and is granted the most dubious hospitality by the other branches of the academy. The design of teacher education has degenerated by default because parochialism among the educators, together with arrogance and ignorance among the other members of the university community, have conspired to defeat common consideration of the common problem. Neither the schools nor the university can long endure these attitudes, and they will not be endured if both schoolmen and academicians listen carefully to one another. Indeed, education, because it is an amalgam of many disciplines and because it is an institution as well as a theory, offers a peculiar temptation to the dilettante, an inviting opportunity to the specialist in practical trivia, but a serious challenge to the serious scholar.

The problem

What are the elements of the problem; that is, what must teachers know and be able to do if they are to rise to the needs of the times? First, and above all, the teacher must be an educated person, conversant with the arts of life and possessed of the breadth and depth which is afforded by liberal and enlightened instruction in the basic ideas of civilization. Second, the teacher must be a seasoned professional with a special interest and a demonstrated competence in a particular portion of the world of knowledge. Third, the teacher must have a peculiar skill in the arts of motivation and communication—including a more than ordinary capacity to speak in a clear and lively fashion, plus the wit and energy to stimulate curiosity, and the ingenuity to design experiences that bring student and subject together in fruitful contact leading, hopefully, to a permanent alliance. The teacher, in brief, needs wisdom, knowledge, and skill.

Though each element in the training of teachers helps and strengthens the others and though some of the things that are done will minister to several at once, we cannot expect the same means to serve all our ends. We cannot, for example, promote both general education and facility in communication by the same set of learning experiences, and the avenue that terminates in a specific field of knowledge branches off the highroad that traverses our cultural heritage. Given the brevity of life, the vastness of knowledge, and the narrowness of human understanding, we must secure the appropriate combination of the general, the special, and the pedagogical by balancing off at the margin the competing claims of each.

Of the three elements in teacher training, I shall discuss only the first and the last, since the problems of special education are so various and miscellaneous.

And I shall precede the discussion of the first by examining a larger problem of which it is an integral part.

General education and vocational training

Formal instruction for a learned profession combines general understanding of the culture with special knowledge of the vocation. As a prologue to the discussion of general education in teacher training, I should like to explore a few of the many questions which this combination raises.

First, the individual is a citizen of the world and must command the wisdom of life. As philosopher, soldier, artist, parent, and citizen he must be informed about the affairs of mankind as well as trained in the business of his profession. Indeed, this is *the* dilemma of education: how to position the syzygies between the generalities and the specifics, how to relate in time and scope the orbit of the individual to the universe of knowledge.

Second, the general and the specific both complement and compete with one another in many different ways. As is apparent to even the meanest understanding, knowledge of the world broadens the individual's base of professional judgment and widens his area of technical competence. To put it negatively, an excess of specialized instruction creates an inferior breed of specialists because it limits their horizons and constricts their imaginations. On the other hand, excessive generality is a diffusion of energy and creates an undisciplined enthusiasm which blunts the edge of judgment. Thus a professional, even a narrowly professional, point of view is a powerful instrument for resolving the confusion of experience. The dialectics of the law or the engines of analysis used in economics and psychology, or the frames of reference used in sociology and anthropology, or the experimental designs of the natural and physical sciences, are telescopes that sweep vast distances though, admittedly, with narrow focus.

Third, vocational training per se includes a generous portion of general understandings. Medicine requires the natural and physical sciences, law embraces political philosophy, while journalism—though some of its notorious practitioners belie their heritage—descends from art and literature.

This inclusion presents a problem for the design of vocational training, namely the problem of "the appropriate degree of generality," as illustrated briefly by the formal instruction of engineers and school administrators. For engineers "the appropriate degree of generality" means the proper amount of science and mathematics given the circumstances of the profession and the abilities of its votaries. Without mathematics and scientific method, an engineer is little more than a parvenu plumber, too proud or too clumsy to wield a wrench and hammer. But, of course, all background and no foreground also invites disaster; if his bridges are not to buckle the engineer must know the strength of materials as well as the structure of the atom.

For school administrators, "the appropriate degree of generality" means the proper foundation in philosophy and the social sciences. To be educational statesmen rather than school custodians, principals and superintendents must understand the social and economic trends of the times as well as master the practical skills of scheduling classes, budgeting funds, and soothing parents. At the same time the school executive is neither a social scientist nor a research specialist; therefore, the theories placed at his disposal ought to promote the art of practical judgment. For this purpose, instruction in school law, for example, might begin with Blackstone's *Commentaries* but assuredly ought not to end there; it should proceed to such pedestrian classics as *The School Code of Hamtramck*

or *Schmutz* v. *Special School District*, 78 Ark. 118, 95 S.W. 438. Scientific method, certainly, and Blackstone, possibly, belong to the main stream of our heritage, but "strength of materials" and the *Hamtramck Code* belong to the minor tributaries of engineering and school administration.

Given the importance of the problem, the academic community ought to compute the balance periodically between general education and special training for each of the learned professions. Though leisurely and amiable as befits a colloquium of scholars and though confined to its proper channels, the discussion must reach some provisional consensus on the educational policy of the institution. Scrutinizing each of the university's offerings in this fashion will, inevitably, divest the vested interests of their powers and touch the wellsprings of rhetoric whenever the reviewing bodies propose drastic changes in existing procedures. But a university without controversy is dead.

Specialization accumulates as knowledge advances. The greater the stream of knowledge, the larger is the number of its branches and the smaller is the portion that any single mind commands. Thus, specialization needs generalization; I can think of no more perfect formula for multiplying ignorance than increasing without uniting the divisions of knowledge. Therefore general education, specializing in the common denominator of the specialties, is the counterpoise to vocational fragmentation.

General education and teacher training

Having outlined the relation between general education and vocational instruction, we may begin our discussion of the special problem of teacher training by observing that the ends of education are to develop the means of life. And the means of life which the schools promote are the possession of information, the ability to reason, and the understanding of values. Though facts, analysis, and values also belong to the curriculum of experience, they are imparted more explicitly and skillfully by the schools than by the untutored hand of time or chance. Education, indeed, is directed experience, but directed to the increase of freedom by fostering the ability of the student to resolve the problems which confront him. Having erected the individual foundations of liberty by developing the ability to solve problems through the interplay of facts and analysis, the teacher establishes the social conditions of freedom, in a world where each is part of the environment of the other, by transmitting a common core of ethical values. If we are to attain these great objectives, we must have persons of high distinction who understand the culture and command the basic concepts of the humanities, the sciences, and the behavioral disciplines.

At the elementary grades the teacher must initiate the unsophisticated in the arts of civilization. In addition to the collection and arrangement of information, these arts demand a framework of general abilities—knowledge of the language, comprehension (or at least manipulation) of the number system, intuition into the rules of thought, appreciation of the beautiful, and perception of the good. Allied to these are such domestic virtues as respect for the proprieties, judgment of people, and a sense of humor. To make of the now malleable, now intractable clay of youth a being whose form and essence reveal the best that lies within him and to do this amid the exasperations of the classroom, the distractions of the home, and the occasional indifference of the community demands the last full measure of wisdom and devotion. To accomplish these ends the elementary teacher employs academic "subjects" as but ports of call for

the voyage, and does not explore the interior nor linger on all the landmarks which occupy the attention of the natives.

In the high school, the teacher conducts his charges on a far more extended excursion, with each portion of the voyage made to a specific point of the compass and under the aegis of a different guide so that, when all is done, a chart of the journey is as difficult to construct as it is necessary to possess. Or, to vary the figure, from the warp and woof of subjects is woven the seamless fabric of knowledge.

Since the teacher at every level must convey the wisdom of life in its three essential elements—fact, analysis, and value—his preparation covers the whole range of knowledge and reaches farther than that of any other vocation. The "appropriate degree of generality" covers, in a measure, all the fields of learning.

But where is the profit of such a great store of learning if the teacher must appeal to a market where the coin of understanding is not yet in circulation? Consider, by way of reply, the utility of philosophy and history to a teacher of reading or arithmetic. Words and numbers have philosophical and historical overtones which even the mind of the child can hear if played upon in the right fashion. Nursery rhymes, for example, originally composed to satirize persons and events of long ago, offer a prelude to the study of history. The concept of the zero, one of the great inventions of the race, is an instrument of infinite possibilities. And when the teacher orchestrates the themes of culture he can appeal to the sense of the abstract, which is one of the marvelous and unexpected properties of the young. How captious and how foolish is the pedagogical doctrine that the social instruction of the child must commence with the objects of the home and expand, seriatim, to the neighborhood, the nation, and the world. They are ready for the great globe itself and we must lead them to it.

The whole community of the university must act as preceptor for teacher training, an endeavor which should excite some measure of attention from every member of the faculty. For they are all involved in this business and must have a hand in its design. Of the three parts of the teacher's education, two are the legitimate province of the arts, the sciences, and the behavioral disciplines. To ensure the wisdom and special knowledge of the teacher, the responsible branches of the academy must join in an *entente cordiale* with the college of education to administer these understandings.

In the great revolution of understanding which is and must be impending, where more things must be taught to more people in a shorter span than ever before in our history, the teachers in the public schools bear the torch that lights the way. But if the academy is to play Prometheus to these legions, it must put its own fires in order.

Communication

Communication is a rigorous and exacting art. The successful teacher must be playwright, stage manager, and actor. He must create the drama of ideas; he must organize his scenery and characters; then he must speak with clarity and passion. But the vulgar prejudice that loquacious experts pass muster as effective teachers clouds the recognition of these roles. If "expertise" and verbosity could turn the trick, transmitting the stuff of civilization would pose no great problem, and the "formidable array of pedagogical subjects" which arouses the captious critics could be abbreviated or abolished.

Satirizing the "methods" courses in the college of education is a favorite diversion on many university campuses, a calculated provocation which, under-

standably, invites protective antagonism among professional educators. Both thesis and antithesis prevent a reasonable synthesis about the role of communication. Formal training in the conduct of learning, though laborious, exacting, and (at times) boresome, is a vital part of the teacher's apprenticeship. The principles that guide it, as well as the justification for the effort expended upon it, are, I believe, shown in the following statements:

1. Communication demands the organization of knowledge. To begin with the miscellaneous interests of the student and end with the systematic requirements of the subject, the teacher must organize knowledge to promote learning.

2. Communication requires psychology. To entice interest, facilitate analysis, and promote application, the teacher must know and wisely use the available connections in the receptive (we hope) mind of the student.

3. Communication is a social activity. Since the school reflects society and the individual mirrors the culture, the teacher should know how society affects the school, how the school influences society, and how his individual role implements—and in some degree changes—the designs of the group.

4. Communication is a moral act. Since individuals are ends and since education must inform them of the necessities of freedom, the teacher should honor the integrity of the student and promote the appropriate measure of both conformity and dissent.

Teaching has its rules and tricks which bridge the gap between science and art. When correctly designed, these rules provide a general framework for individual judgment in particular cases. But they are sometimes phrased too literally and often taken too seriously. To bring system to the discipline, one is tempted to say, we should look at the things which successful teachers have done and write them down in a set of rules. A professional curriculum, however, that emphasizes practical precepts is a perfect formula for failure. Pedagogical maxims cannot communicate the art of communication because, first, precepts cannot enumerate all that practice encounters, and, second, application is ambiguous when the rules are contradictory. To exemplify the second of these reasons from another area, maxims for the conduct of life which recommend everything and therefore specify nothing belong to the amiable sophistry of popular folklore: "Many hands make light work" contradicts "Too many cooks spoil the broth." Or "A stitch in time saves nine" cancels "Don't cross your bridges till you come to them." The victim of an impractical emphasis on practical training, the practitioner who knows how to use his instruments but not how to make them cannot create new tools for new situations. When adrift in alien waters armed with the implements found at home he skewers sharks with a broom and catches rain in a sieve.

To provide insights rather than precepts, we need theories of learning and communication based upon the analytical principles of psychology and sociology, upon the value judgments of ethics and esthetics, and upon the organizational methods of curriculum design. But some of the intellectual foundations which underlie the training of the learned professions are an unstable amalgam of sand and water. The abominable practice of debasing the currency of common sense by reissuing simple relations as complex "principles" creates counterfeit theory which drives the genuine article into hiding. As members of a community engaged in the fabrication and distribution of ideas, we find that our methods of touting our wares skirt the verge of chicanery. To capture some

simple notion and puff it up by words and signs; to take some poor piece of stuff that was honest and solid in the native state and fill it with wind till it floats high in the air—to levitate the commonplace in this fashion is a common scholar's trick.

Though teacher training has its share of humbug, instruction for other professions has its own indigestible treasures. The transgressions of the former, however, attract more critical attention because everyone who went to school is an expert on education. But a visceral reaction against teacher training is no substitute for reasoned reform undertaken by responsible members of the university. In training teachers, as in the other tasks of democratic civilization, we are summoned to greatness and shall attain it, but we must honor and understand our traditions before we can hope to surpass them. Here as elsewhere, the future stands on the shoulders of the past.

Summary

Given the aims of education which are the apprehension of *facts*, the development of *analysis*, and the perception of *values*, the teacher in the public schools must have wisdom, knowledge, and skill. The instruction of these guardians of the future by the college and the university demands the appropriate measure of general education (to impart the *wisdom* of life), special education (to impart *knowledge* of a specialty), and training in teaching (to impart *skill* in communication).

In the education of all who aspire to the learned professions, the claims of general education upon them are both peculiarly important and particularly likely to be ignored. In the education of teachers, general education in the concepts of civilization is all the more necessary because the principal task of the elementary and secondary school is to cultivate these concepts in the young.

The teacher must be able to lead others to see what he has seen, an art whose creation requires principles drawn from science and philosophy rather than precepts distilled from practice. Though much encumbered with humbug, teaching is a noble calling which demands arduous and careful training.

To administer this great endeavor requires the efforts of the whole university, for the teacher covers the spectrum of knowledge and only the faculty in its entirety is the suzerain of the spectrum.

Financial Statements of the American Council on Education

American Council on Education
1785 Massachusetts Avenue
Washington 6, D.C.

March 24, 1961

Dr. David D. Henry
Chairman
American Council on Education
1785 Massachusetts Avenue, N.W.
Washington 6, D.C.

Dear Dr. Henry:

I am submitting herewith the financial statements for the American Council on Education for the year ended December 31, 1960. These statements are a review of the budgeted operations for the year and are based on the budget approved by the Council's Executive Committee. In general, the accounts for the Council are maintained on a cash basis.

The business records for the year have been examined by our auditors, Main and Company, and detailed copies of their report are on file in the appropriate executive offices.

Respectfully submitted,

Frederick P. H. Siddons
Treasurer

AMERICAN COUNCIL ON EDUCATION

BALANCE SHEET

December 31, 1960

ASSETS

CURRENT FUNDS			
General			
Central Services Fund			
Cash	$ 1,288.51		
U.S. Government securities (at cost)	15,000.00	$ 16,288.51	
Publications Fund			
Cash	$ 9,213.08		
U.S. Government securities (at cost)	215,000.00	224,213.08	
Building Fund			
Cash	$ 2,462.04		
U.S. Government securities (at cost)	10,000.00	12,462.04	
Reserve Funds			
Accrued leave reserve			
Cash	$ 497.02		
U.S. Government securities (at cost)	6,000.00	6,497.02	
Depreciation reserve (equipment)			
U.S. Government securities (at cost)		8,400.00	
Other reserve funds			
Cash	$ 2,775.47		
U.S. Government securities (at cost)	235,772.20		
Loan to Plant Fund	149,655.60		
Deferred items	1,715.02	389,918.29	
Total general			$ 657,778.94
Restricted			
Research and service project funds			
Cash		$ 93,336.53	
U.S. Government securities (at cost)		385,000.00	478,336.53
Total current funds			$1,136,115.47
PLANT FUND			
Land and buildings, Washington, D.C.			
1785 Massachusetts Avenue, N.W.		$516,433.16	
1777 Massachusetts Avenue, N.W.		72,958.25	589,391.41
Total assets			$1,725,506.88

BALANCE SHEET—*Continued*

December 31, 1960

LIABILITIES

CURRENT FUNDS				
General				
Central Services Fund				
Unappropriated fund balance			$ 16,288.51	
Publications Fund				
Liability for unexpended publication advances, etc.		$ 76,252.76		
Fund balance				
Appropriated	$ 50,000.00			
Unappropriated	97,960.32	147,960.32	224,213.08	
Building Fund				
Unappropriated fund balance			12,462.04	
Reserve Funds				
Accrued leave reserve				
Fund balance			6,497.02	
Depreciation reserve (equipment)				
Fund balance			8,400.00	
Other reserve funds				
Fund balance			389,918.29	
Total general				$ 657,778.94
Restricted				
Research and service project funds				
Accrued leave			$ 21,508.68	
Fund balances			456,827.85	478,336.53
Total current funds				$1,136,115.47
PLANT FUND				
Loans payable to other reserve funds			$149,655.60	
Net investment in plant			439,735.81	589,391.41
Total liabilities				$1,725,506.88

AMERICAN COUNCIL ON EDUCATION

Statement of Income and Expenditures—Operating Funds

Year Ended December 31, 1960

	General Fund	*Central Services Fund*	*Publications Fund*	*Building Fund*	*Total**
Income					
Membership dues	$206,433.33				$206,433.33
Fees and services					
Administrative fees	117,731.38				117,731.38
All other	15,624.41	$112,916.85			128,541.26
Sales of publications			$367,227.11		367,227.11
Rentals				$103,794.38	103,794.38
Interest on investments			320.80		320.80
All other	1,419.07		112,003.19	384.18	113,806.44
Total income	$341,208.19	$112,916.85	$479,551.10	$104,178.56	$1,037,854.70
Expenditures					
Salaries	$196,808.55	$38,658.46	$35,707.83	$37,465.50	$308,640.34
Employees' benefits: social security, retirement, and other insurance	22,762.07	3,050.46	3,653.67	1,123.95	30,590.15
Provision for accrued leave	2,000.00				2,000.00
Rent	15,330.84	2,116.92	4,801.96		22,249.72
Office supplies and expense	10,738.85	16,661.59	6,166.03	236.35	33,802.82
Furniture and equipment acquisitions	1,489.03	454.47	2,994.10	726.48	5,664.08
Maintenance and repairs		552.00	376.79	14,494.03	15,422.82
Printing			222,100.68		222,100.68
Editorial			7,791.55		7,791.55
Royalties and similar payments			42,987.04		42,987.04
Freight, postage, and express	2,055.98	46,633.78	51,659.99		100,349.75
Sales promotion			26,816.58		26,816.58
Real estate taxes				9,277.02	9,277.02
Heat, light, power, and water				14,452.42	14,452.42
Interest				4,201.25	4,201.25
Committees, commissions, and conferences	52,542.97				52,542.97
Bulletin	35,699.53				35,699.53
Educational Record	20,205.71				20,205.71
Administrative fees		6,638.67	22,064.42		28,703.09
All other	10,914.53	2,212.39	5,571.06	6,206.77	24,904.75
Total expenditures	$370,548.06	$116,978.74	$432,691.70	$88,183.77	$1,008,402.27
Excess of income over expenditures	$29,339.87†	$4,061.89†	$46,859.40	$15,994.79	$29,452.43

* Income and expenditures include transactions between funds, such as rental charges from the Building Fund, service charges from the Central Services Fund, printing charges from the Publications Fund, and charges for administrative fees from the General Fund.

† Excess of expenditures over income.

AMERICAN COUNCIL ON EDUCATION

STATEMENTS OF RECEIPTS AND DISBURSEMENTS—RESEARCH AND SERVICE PROJECT FUNDS

Year Ended December 31, 1960

Fund	*Balance Jan. 1, 1960*	*Receipts*	*Disbursements*	*Balance Dec. 31, 1960*
American-Sponsored Schools in Cuba and Mexico	—	$ 14,410.00	$ 14,435.00	$ 25.00*
American Degree Mills	$ 1,427.96*	1,432.66	4.70	—
American Junior Colleges Handbook, 1960 Edition	3,431.33	—	3,431.33	—
American Universities and Colleges Handbook, 1960 Edition	2,767.82	1,648.53	4,416.35	—
Asia Foundation	10.51	2,288.37	2,298.88	—
Canada—U.S. Committee on Education				
Study of Federal Aid to Higher Education in Canada	8,215.00	—	—	8,215.00
Carnegie Corporation of New York—Grant to support conferences and small projects	3,347.93	—	1,000.00	2,347.93
College Law: A Handbook for Administrators	1,202.78	15,000.00	15,780.71	422.07
College Teaching as a Career	3,773.17	—	1,539.19	2,233.98
Commission on Accreditation of Service Experience				
U.S. Armed Forces Institute Contract, DA-49-039-IE-84	514.49*	514.49	—	—
U.S. Armed Forces Institute Contract, DA-49-039-IE-92	16,061.01*	46,525.28	30,464.27	—
U.S. Armed Forces Institute Contract, DA-49-039-IE-98	—	11,747.21	25,759.00	14,011.79*
Commission on the Education of Women—Lilly Endowment, Inc.—1960 Budget	35,319.50	—	29,973.61	5,345.89
Committee for Educational Liaison with African Countries	10,490.80	—	9,847.13	643.67
Committee on Equality—Conference on Personal Incentive	2,334.04	2,500.00	5,039.35	205.31*
Committee on Intercultural Studies in Colleges and Universities	26,066.53	—	7,312.88	18,753.65
Committee on Leaders—Special Fund	—	2,961.94	1,896.58	1,065.36
Committee on Leaders and Specialists				
U.S. Department of State Contract, SCC 25158	72,991.23	—	72,850.11	141.12
U.S. Department of State Contract, SCC 26452	48,137.88	237,797.00	241,684.21	44,250.67
U.S. Department of State Contract, SCC 27389	4,975.22*	310,318.49	490,260.29	184,917.02*
U.S. Department of State Contract, SCC 28050	—	80,000.00	72,922.58	7,077.42
Committee on Measurement and Evaluation—5 conferences	1,572.16	—	—	1,572.16
Committee on Television				
Budget, November 1, 1959, to October 31, 1960	1,667.60*	15,686.08	14,018.48	—
Budget, November 1, 1960, to October 31, 1961	—	20,000.00	2,959.33	17,040.67
Penn State Conference	128.74	—	128.74	—
Special Conference Fund	2,162.54	—	2,162.54	—
Publications Account	544.79	2,232.66	1,686.08	1,091.37
Conference on College Teacher Preparation Programs	1,627.74	—	—	1,627.74
Conference on Education in East Africa	—	55,000.00	28,581.68	26,418.32
Council on Cooperation in Teacher Education	959.68	3,849.24	4,588.40	220.52
Educators from the U.S.S.R.	115.80	624.20	740.00	—
Ford Foundation grant for conferences and small projects	10,746.71	50,000.00	43,700.00	17,046.71
Guide to Graduate Study	—	20,000.00	20,000.00	—
Handbook on Measurement and Evaluation, preparation of	1,107.39*	—	—	1,107.39*
Inter-American Schools Service				
U.S. Department of State Contract, SCC 27524	12,632.79*	253,756.00	241,123.21	—
U.S. Department of State Contract, SCC 28052	—	216,947.50	44,740.79	172,206.71
Conference funds	23.89	—	19.22	4.67

* Debit.

Statements of Receipts and Disbursements—*Continued*

Fund	*Balance Jan. 1, 1960*	*Receipts*	*Disbursements*	*Balance Dec. 31, 1960*
Introduction of Entering Students to the Intellectual Life of the College, The	—	$ 5,500.00	$ 4,870.02	$ 629.98
Inventory of Resources and Practices at the NDEA Language and Area Centers	—	60,000.00	36,207.62	23,792.38
Joint Council on Educational Broadcasting	—	400.00	—	400.00
Joint Council on Educational Television				
Budget, 1959	$ 10,418.77	—	10,418.77	—
Budget, 1960	—	57,640.63	57,640.63	—
Interim account	—	19,378.39	21,466.91	2,088.52*
Manual on College and University Business Administration	918.25	—	—	918.25
Manual on College and University Business Administration—revision	—	500.00	—	500.00
Master of Arts in Teaching Handbook	2,835.74	1,000.00	3,731.94	103.80
Microfilms, costs and shipping to India				
U.S. Department of State Contract, SCC 26582	7,490.22	—	7,490.22	—
National Study of Secondary School Evaluation—revision program	303.61*	8,056.23	8,316.50	563.88*
Office of Civil and Defense Mobilization—Contract CDM-os-60-65	—	—	1,171.96	1,171.96*
Office of Institutional Projects Abroad	33,543.31	—	31,364.03	2,179.28
Office of Statistical Information and Research				
Carnegie Corporation of New York grant	128,705.09	76,885.52	70,361.41	135,229.20
Social Changes and the College Student	—	700.00	676.88	23.12
Study of Character Development in Education	—	—	—	—
Study of ICA Participant Training Program	21,853.27	—	13,825.97	8,027.30
Study Regarding Survey of Business and Industry	10,320.99	—	761.67	9,559.32
Study of the Soviet Union in Social Studies	665.20	—	—	665.20
Survey of American University of Beirut				
U.S. Department of State Contract, SCC 26586	131.53	—	131.53	—
Survey of Dentistry in the U.S.				
Budget, June 1, 1959, to May 31, 1960	130,747.61	—	130,747.61	—
Budget, June 1, 1960, to September 30, 1960	—	94,223.89	50,571.09	43,652.80
Tax Service for College Business Officers	4,351.44	—	—	4,351.44
Teacher Characteristics Study	15,000.00	—	9,374.19	5,625.81
Teaching and Retirement Pamphlet	—	1,000.00	582.54	417.46
Thurstone Primary Mental Abilities Research Fund	983.13	—	—	983.13
United Arab Republic	—	7,748.00	7,748.00	—
Veteran's Testing Service				
Budget, July 1, 1959, to June 30, 1960	11,953.22	11,010.76	22,963.98	—
Budget, July 1, 1960, to June 30, 1961	—	27,930.32	13,106.85	14,823.47
Washington International Center—Orientation Program for Foreign Grantees under the Educational Exchange Program				
U.S. Department of State Contract, SCC 27495	11,097.29	108,109.94	119,207.23	—
U.S. Department of State Contract, SCC 28091	—	126,500.00	114,501.56	11,998.44
Latin American Project	3,024.43	—	3,024.43	—
Special account	1,785.31	6,725.00	8,510.31	—
Washington International Center—Meridian House Project—Ford Foundation grant	41,447.51*	501,040.00	390,279.78	69,312.71
Total, Research and Service Project Funds	$551,657.79	$2,479,588.33	$2,574,418.27	$456,827.85

* Debit.